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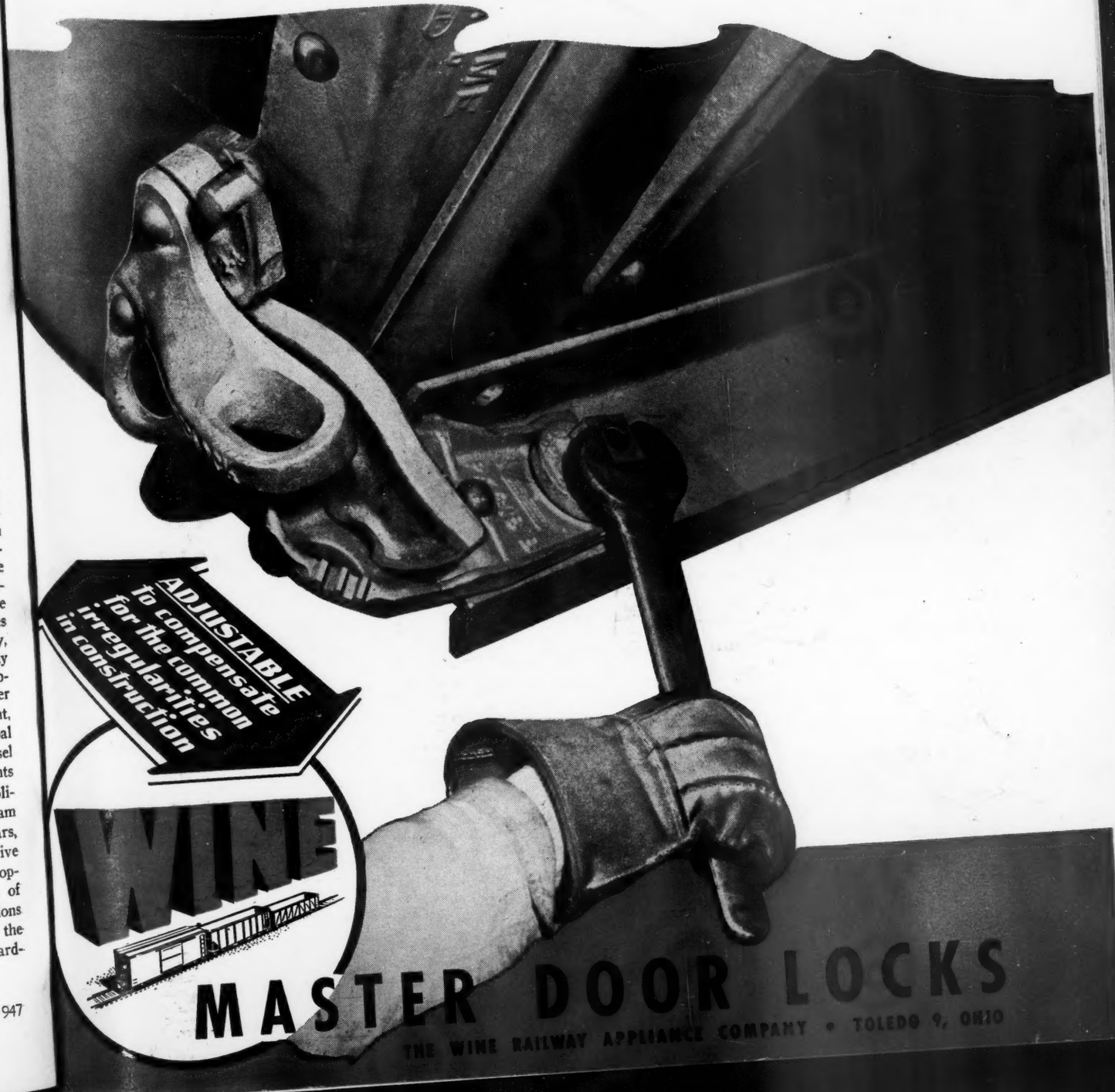

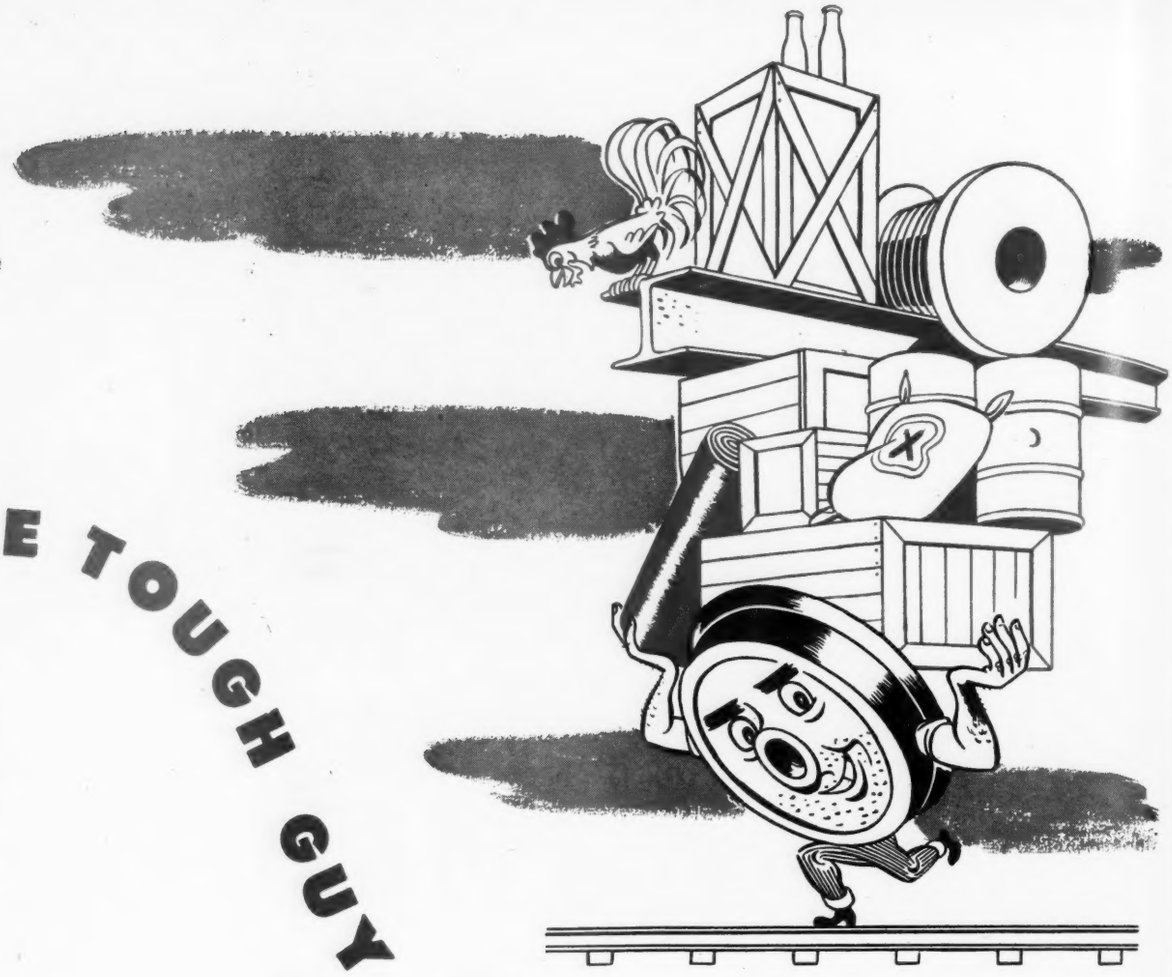

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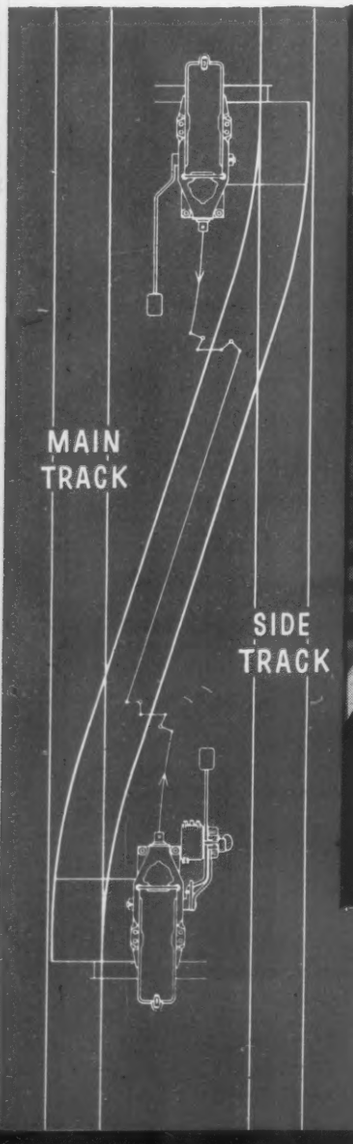

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RAILWAY AGE

Another Evasive Report on Transportation Policy

The National Association of Manufacturers has recently sponsored the publication of a two-volume treatise entitled "The American Individual Enterprise System," written by a distinguished group of authors, and proclaimed on the wrapper as "a vital message for every red-blooded believer in American democracy"—with the further promise that the work discusses "soundly and authoritatively" the "principles and practices which further the achievement" of the goal of the enterprise system, i.e., maximum economic good for the people. The work includes a 64-page chapter on transportation, of which the best that can be said is that it comprises a reasonably adequate summary of the physical magnitude of the transport business, with an outline of the standard complexities involved in the making of railroad rates, such as is to be found in any book on transportation economics.

Equivocation Instead of Indoctrination

The reader will, however, search in vain for anything which can be accurately termed "vital" or "red-blooded" in this official N.A.M. statement on transportation. In a subheading it is asserted that the "railroads . . . face . . . disaster if present policies governing transportation are not revised." But the authors carefully avoid revealing what these revisions in policy should be; nor do they fulfill the promise of appraising the transportation situation in the light of "the principles and practices" of individual enterprise. Instead, they evade conclusions on all the controversial issues, and, as a result, have produced a "least common denominator" statement. It will offend none of the vested interests which are defying the principles of free enterprise in their insistence on the semi-socialization of transportation. Such excessive caution, of course, contributes nothing whatever toward solving any of the problems of the transportation industry, thereby removing the threat to the continuance of the system of individual enterprise which is inherent in letting these problems go unsolved.

If the bishop himself does not manifest a reasonable degree of adherence to the doctrines and practices of the religion he professes, it will surprise nobody if heresy and irregularity permeate the behavior and belief of the flock committed to his charge. If a select commission of the priesthood of private enterprise, chosen by the N.A.M. heirarchy to expound the one true economic faith to the multitude, feels impelled to resort to evasion and equivocation when it is faced with the job of applying sound doctrine to transportation, it may be safely concluded that few political and economic heretics and subversives are going to be converted by such missionaries as these.

Adam Smith, the founder of modern economics, amply set forth the principles of private enterprise as applied to transportation when he explained why the costs of fixed transportation plant should be paid from tolls levied on the users; and that such tolls are no hardship on these users since they represent but a *part* of the savings in operating costs which the users derive from the plant provided for them. Yet, 170 years after the publication of the "Wealth of Nations," the N.A.M. book, in discussing inland waterway transportation, takes no more definite a stand than to assert that "there are many ardent and earnest believers in the efficacy and economy of inland waterway transportation," whose views do not "seem" just at present to be timely. It did not, apparently, occur to the learned authors to suggest that the application of Adam Smith's principle of sustaining tolls would take this whole question out of the realm of controversy, and, at the same time, would put private capital invested in transportation plant in a position to compete on equal terms with socialistic ventures into the industry.

A Lost Opportunity

On the subject of railroad-versus-highway competition the N.A.M. authors admit that the railroads "may have made a substantial contribution" toward the construction of facilities used by their rivals. Instead, however, of denouncing this condition as an obvious betrayal of recognized principles of individual enterprise and private capitalism, the writers fall back weakly

on the inconsequential excuse that, after all, the railroads enjoy "exclusive use" of their plant, while highway users have to share the highways with others. If "exclusive use" were any such boon as is implied in this pontifical irrelevancy, then the operators of commercial highway vehicles would be clamoring for franchises to build privately-owned roads.

As for the railroad land grants, the N.A.M. writers are unable to make up their minds whether these grants should be valued at the price at which the government was offering its land before the railroads were built, or whether the value should be charged against the railroads at the price they obtained for the land after the intervention of a period of waiting and risk-taking. This question involves no difficulties for an analyst seeking the truth without equivocation. The difference between the price the railroads obtained for the land grants and the price of the lands at the time they were proffered by the government represents an increment contributed by railroad waiting and railroad risk-taking, and was not a value included in the donation from the government.

The learned authors observe that "it is a characteristic of the railroad business that a huge investment must be made in fixed plant," and they go on from there to expound the peculiarities of rate-making which stem from this fact. They neglect to mention, however, that it is not the railroads alone which have this characteristic, but that it is common to all forms of inland transportation—except that users of highways, waterways, and air transportation are enabled artificially to avoid the consequences of this economic fact by the intervention of the public treasury to relieve them of the cost of maintaining "stand-by" facilities.

Additional instances could be cited of the failure of this treatise to come resolutely to grips with the facts, but the process is too painful to continue. Work on these volumes was undertaken several years ago, at a time when the N.A.M. was less resolute and courageous in its exposition and defense of the doctrines it professes than it has recently appeared to be. Indeed, the chapter on transportation bears evidence of being a couple of years old. The charitable conclusion is that this timid and inconclusive report on transportation is a relic of an N.A.M. attitude which it is in process of outgrowing. Such, at any rate, is the only conclusion possible to an optimist. If the principal defenders and largest immediate beneficiaries of individual enterprise cannot do a more forthright and competent job of applying their doctrines to a specific practical situation than has been done in this N.A.M. chapter on transportation, then American industrial leadership is indeed in a bad way. Leaders hold their position of leadership by leading, not by dodging and evading.

Electric Brakes Shorten Train Schedules

Electric-actuated air brakes, in conjunction with speed governor control, anti-wheel-slide devices and automatic sanding on individual cars, constitute the latest important improvement in brake equipment for modern high-speed passenger trains. The main objective sought with the new equipment includes practically instantaneous, flexible and uniform control of braking effort on all cars at all times. This result has been achieved to such an extent that not only are the safety of train operation substantially increased and adverse effects of heavy braking shocks on passengers and equipment reduced, but an opportunity is offered of saving an appreciable amount of time on regular train schedules.

Electro-pneumatic brake equipment, for example, reduces the time as well as the distance required for both emergency and service stops, owing to instant application and maintenance of maximum safe brake-shoe pressures on the locomotive and all cars as train speed decreases. The flexibility and uniform-application features also are important time-savers in that train speeds can be smoothly controlled when entering curves or slowing down for signals, and all brakes can be quickly released once the need for speed reduction is past. One railroad estimates that the use of new electro-pneumatic brake equipment on passenger trains saves 15 min. on each division. Another credits this equipment with saving one hour on a regular 1,000-mile schedule and a third reports that two hours are saved in a run of about 2,200 miles.

As already implied, the most important feature of the electro-pneumatic brake is its ability to function more quickly and uniformly than the automatic brake on all equipment in a train. The speed-governor-control used with clasp brakes operates to reduce brake-cylinder pressure in direct relation to car or train speed. This permits utilizing high brake-shoe pressures at high train speeds when adhesion between shoe and wheel are low, these pressures being automatically reduced as train speed is reduced.

The speed-governor generator, attached to a journal box and driven from one axle end on each car, develops electric voltage in proportion to train speed and this voltage operates through the speed-governor-control system to energize relays which adjust brake-cylinder pressure in proportion to train speed. In the usual installation, this system supplies 100 lb. brake-cylinder pressure, equivalent to braking 250 per cent of the car weight, in emergency application at speeds above 65 m.p.h.

The service application gives 75 lb. brake-cylinder pressures at speeds over 65 m.p.h. In either case, the cylinder pressure is reduced 20 per cent at 65, 40 and 20 m.p.h. On cars equipped with disk brakes, no speed governor is used, as the shoe friction value is practically constant at all speeds.

Anti-wheel-slide devices are also an important part of the equipment. They are attached to the journal boxes, driven from the car axle ends and, in general, are designed to release brake-cylinder pressure whenever a wheel-slide condition becomes imminent and to restore the pressure as soon as wheel speed returns to normal. With automatic sanding equipment, operation of the anti-wheel-slide device causes the equipment to function and deliver sand to the rail for a few seconds. As cars so equipped usually operate in one direction only, the sanders are installed in front of the lead wheels of the truck.

Air brake manufacturers and railway brake experts deserve great credit for their ingenuity, skill and technical "know how" in developing electro-pneumatic brakes

and associated equipment to their present state of high efficiency. Even the most fully automatic equipment depends, however, upon the "human equation" and railroads are now confronted with the task of instructing both operating and maintenance forces in methods of getting best results with this important new railway tool.

Terminal Delays

When normal operating conditions return, there will be no great difficulty involved in once again getting freight trains over the road at relatively high speeds. This was the tendency immediately before the war and there is no reason why, in due course, freight trains cannot be advanced to faster schedules than ever before, if that is what is wanted. It is just as well to bear in mind though that the customer does not judge performance by the speed of trains between terminals. All he is interested in is the time which elapses between the shipper and the receiver. A fast schedule on the road is quickly nullified if cars spend any time to speak of standing around after they reach a terminal.

By pre-classification and by harmonizing yard operations on a system-wide basis most railroads have succeeded in cutting down terminal delays to cars moved entirely on their own lines, but they have not made much progress so far in getting similarly systematized handling of interline traffic. The chief difficulty is that, too often, each line is unduly attentive to "its own interests" and is somewhat less than eager to adjust its terminal operations to meet the needs of the connecting line. The result is that cars remain in terminals for many hours, or even days, when cooperation between carriers would avoid such disservice to customers.

Cooperation between terminal operating officers of connecting lines is not quixotic altruism, but hard-headed business sense. When one line readjusts its operating practices, perhaps at some additional expense, to meet the needs of a connecting line, it can usually expect to get a return of the favor from the connection, by its readjustment of operating practices on traffic moving in the reverse direction. There is an example of this at Denver. The Burlington has a modern car-retarder yard at Lincoln, Neb., 483 mi. east of Denver. At this yard, cars to be delivered to the Denver & Rio Grande Western and Union Pacific at Denver are classified into blocks and placed at the head ends of trains. This entails some additional expense at Lincoln, but it saves money at Denver and permits the interchange of through traffic at such speed that cars seldom remain in the Denver terminal more than two hours.

In the reverse direction, the connecting roads reciprocate by pre-classifying their cars to be delivered to the Burlington for destinations Lincoln and east in one block, and similar benefits are obtained to the advantage of shippers, both eastbound and westbound.

Many such examples could be cited—but still not enough of them. One of the big lessons learned by operating men in moving the huge war-time traffic was that they could work with their colleagues on other railroads to their reciprocal advantage. The lesson of this experience deserves a wider application—nowhere more than in collaboration at connecting terminals.

Fixed-Plant Improvements

Practically all those who have anything to do with the physical properties of the railroads recognize that many improvements are needed if these facilities are to be brought up to standards commensurate with present and future requirements. The volume of improvement now under way or planned for the immediate future is showing a moderate increase compared with recent years, but is far below the level necessary to produce, within a reasonable period, a fixed plant with all desirable characteristics.

Why is it that improvements are not being made at a faster rate? There is probably no single answer to this question. Anyone desiring to explore the subject thoroughly will find it interesting, and fruitful, to review, in broad perspective, the events of the past 17 years.

When this is done the inquirer may be surprised to find that at no time during this period were property improvements being made at a satisfactory rate. During practically the entire decade of the Thirties there was the seemingly sound argument that, because of slack business conditions and low earnings, the roads would be unwise to invest large sums in property improvements. Then came the war with its accompanying shortages and government restrictions having the effect of confining practically all improvement projects to those beneficial to the war effort. Many brave predictions were made during this latter period, however, to the effect that after the war the railroads would really begin to make up for lost time.

Still looking at the situation in perspective, we come to the postwar period and find that, generally speaking, the roads' property-betterment programs, while larger than for some years past, are still smaller than many hoped and expected they would be. It is true that the picture contains retarding factors, such as shortages of materials, which are beyond the control of the railroads, but there is still a large volume of work that could be undertaken if authorization could be obtained.

In spite of the fact that the railroads' business remains at a relatively high level there are various factors that are discouraging them from making property improvements on an adequately large scale now. Among these are the uncertainties of the future and the relatively high cost of construction. The management of a business which sees present investment earning only meager returns or none at all is obviously not inclined, as a trustee of other people's money, to abandon all caution in sinking large additional sums in improvements. So long as earnings are not great enough to induce additional investment funds to seek employment on the railroads, management is inclined to husband with great care the resources it has. At the same time, there is no longer any question about the indispensability of railroad service to the country; and there is also little doubt that the public prefers to secure this service from private enterprise, because it believes that private enterprise will serve it better than government-owned railroads could. The assurance of the continuance of private enterprise in the railroad business requires that, somehow, the railroads contrive to secure the funds and make the improvements needed to keep the public satisfied with the service they render.

Illinois Central's New Train Provides Fast Day Service to New Orleans

14-car train furnishes ultra-modern daily coach service on 15-hr. 55-min. schedule between Chicago and New Orleans

THE 14-car dayliner, "City of New Orleans," which the Illinois Central placed in operation on April 27, as reported in a news item in the *Railway Age* of April 19, inaugurates a new service with equipment to make coach travel so comfortable, convenient and interesting that even a full day's journey by rail will not prove tedious. The train makes possible for the first time daylight luxury-coach service between Chicago and New Orleans on a record "dawn-to-dusk" schedule of 921 miles in 15 hr. 55 min., or 35 min. less than the companion overnight train, the "Panama Limited." The train also makes available equally fast service between St. Louis-New Orleans and Louisville-New Orleans. There are 19 regular intermediate stops in the run between Chicago and New Orleans.

The "City of New Orleans" consists of two 14-car trains which operate opposite each other daily in supplying this new service. Each train will normally comprise a 6,000-hp. three-unit Electro-Motive Diesel locomotive and 14 cars, including a mail and express car, baggage-dormitory car, two 48-seat coaches, seven 56-seat coaches, a dining car, a diner-lounge, and an observation-tavern-lounge car. The consist of the train leaving Chicago is 11 cars. One of the coaches starts from St. Louis and is picked up at Carbondale, Ill. Two more of the coaches come from Louisville and are picked up at Fulton, Ky., to make 14 cars going into New Orleans. The reverse operation is followed on the northbound trip.

Exterior Color Scheme

Coaches for the new trains were built by the Pullman-Standard Car Manufacturing Company and all other cars at the Burnside (Chicago) shops of the Illinois Central. The exterior color scheme of the train consists of an orange-brown-yellow combination which identifies all modern I. C. passenger equipment. These brilliant colors can be seen at a great distance and provide an additional safety factor in high-speed operation.

The roof and letter board to below the window line are a dark brown and from the lower window line to the bottom of the sides each car is finished in deep orange. The car skirts are also dark brown. Canary yellow bands run the length of the cars above and below the window line and just above the bottom of the car sides. Car names are lettered in dark brown on the deep orange field.

The Diesel locomotives which power the "City of New Orleans" trains are Type EA-7, built by the Electro-Motive Division of General Motors Corporation.

The 6,000-hp. three-unit locomotives are geared for a top speed of 117 m.p.h., but high maximum speed is not so important in the maintenance of scheduled running time as the ability to accelerate rapidly, to travel long distances without stops for fuel or servicing, and to take curves faster with safety due to the low center of gravity.

In addition to its ability to maintain the fast schedules, this type of locomotive is especially satisfactory for passenger service because of a number of characteristic advantages. Among these are increased comfort for both passengers and locomotive crew due to cleaner and smoother rides.

Car Construction

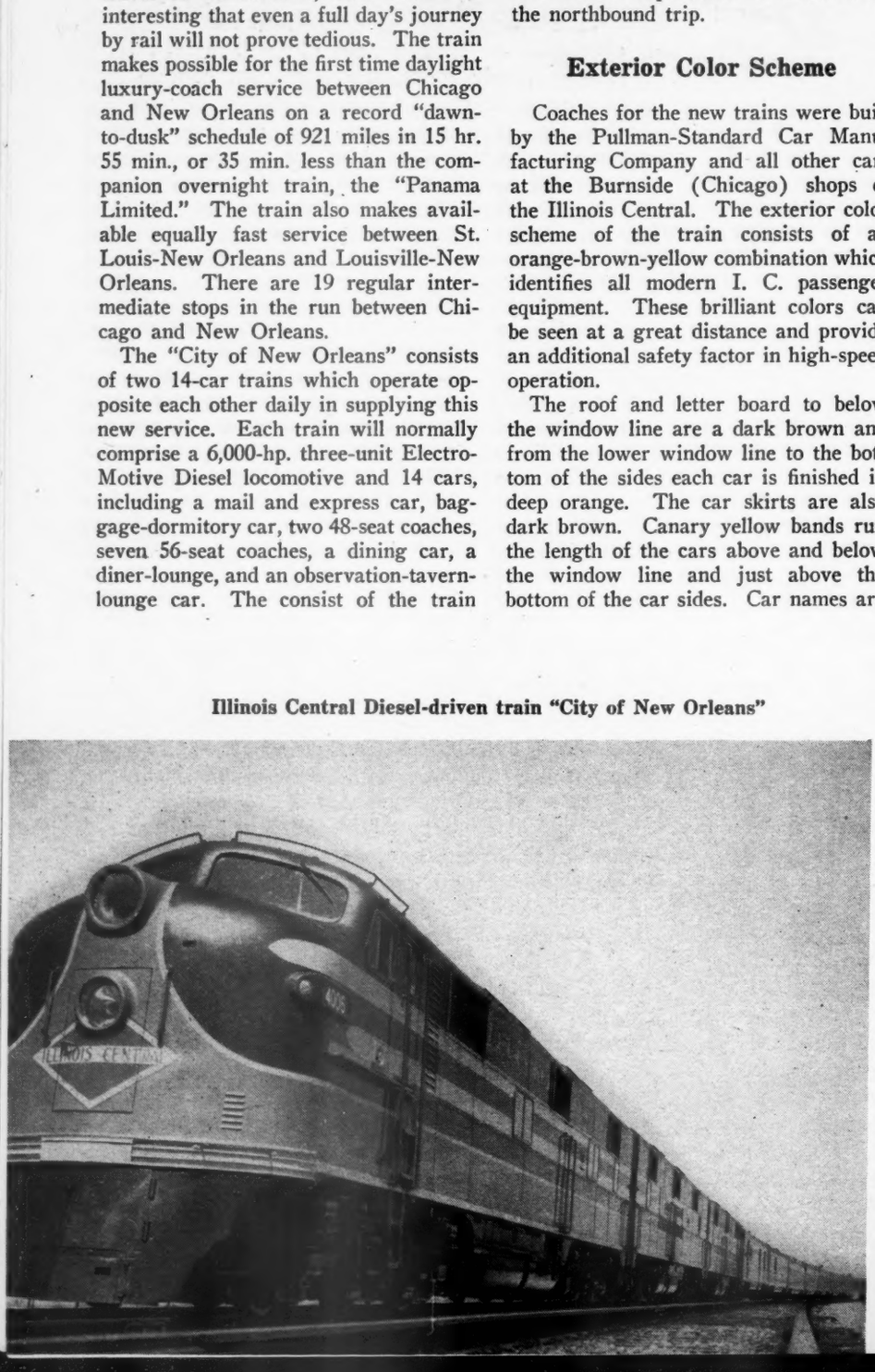
Maximum safety features, as prescribed by the Association of American Railroads, have been incorporated in the "City of New Orleans" cars. All coaches are of Pullman-Standard welded-girder construction with smooth sides, the structural members — underframes, sides, ends and roofs — being made of high-strength alloy steel throughout.

This type of car has been subjected to an 800,000-lb. squeeze test by the builders to prove the safety of the design. All cars are equipped with tightlock couplers which offer increased safety by making it almost impossible for cars to uncouple accidentally. These couplers and Waughmat twin-cushion draft gears are installed on all cars, including both those made by the car builder and by the railroad company.

Windows are unusually wide, 62-in. double thermopane, shatterproof glass being used in the four "Day-Nite" coaches. All other coaches have Adams & Westlake breather-type, double-glazed sash units, with inside glass ¼-in. laminated plate, and outside glass ¼-in. polished plate. All cars are thoroughly insulated with Fiberglas and Stonefelt.

Coach trucks are of the four-wheel,

Illinois Central Diesel-driven train "City of New Orleans"



cast steel, all-coil-spring type, with General Steel Castings truck frames, Hyatt roller bearings and vertical shock absorbers. All cars are equipped with New York high-speed electro-pneumatic air brakes including governor and decelostat control for preventing wheel slippage. Cars are provided with air-controlled sanding equipment which is operated automatically in conjunction with the wheel-slide control.

The weight of each 48-passenger Day-Nite coach is 122,475 lb.; that of each 56-passenger coach, 123,149 lb.

Coach Seats

The luxurious seats in the 56-passenger coaches are scientifically designed. They are spaced 41½ in. between centers to give ample leg room and provide a wide range of adjustment for back and foot-rest positions. A button adjusts the back of the chair to nine positions. A foot-rest located on the seat ahead is adjustable to four positions. These seats were manufactured by the Coach & Car Equipment Corp.

The two 48-seat coaches in each train embody Day-Nite features, which provide many of the comforts and conveniences of first-class travel. To improve sleeping comfort the seats are spaced 52 in. between centers, giving passengers an opportunity to stretch out, with their feet and legs supported at seat level by an upholstered leg rest pulled down from the back of the seat ahead.

Spacious women's lounges with double toilet facilities are located at one end of each coach with an equally large men's lounge at the other.

Individual Reading Lights

In the main seating compartments of the coaches, the reading lights, installed in the overhead baggage racks, are equipped with two lenses over each cross seat, one to give light for the window passenger, the other for the aisle passenger. Each lens supplies a high-intensity beam at the reading plane for one passenger, without overlapping to the adjacent passenger or others seated in the rear or forward. Each light has an individual switch so that a passenger may read without disturbing his neighbor.

To obtain maximum light in the aisles without disturbing the passengers, or causing conflicting light beams, magnifying prism-lens glass is employed in the coach ceiling lights which project a narrow high-intensity beam of light the width of the aisle without extending over into the passenger area. This fixture also gives a soft, diffused light for the ceiling and upper portion of the car.

At night, when the main ceiling lights are turned out, night lights incorporated in the aisle side of the seats near the floor throw a dim light on the aisleway which is sufficient so that passengers may move about without any difficulty, yet not bright enough to interfere with sleeping.

In the lavatories and toilets of the coaches, magnifying prism-lens glass lighting fixtures are also used. The women's dressing rooms contain large make-up mirrors with lighting fixtures on either side of the mirror. The vestibules and passageways are also lighted with individual incandescent fixtures of the magnifying prism-lens type.

The car sides are dark brown above and orange below, striped with canary yellow

Dining and Observation Cars

Dining cars of the "City of New Orleans" are richly decorated in natural wood backgrounds. One diner has walls finished in walnut and the other in mahogany. The seating capacity of these cars is 36 persons each. The diner-lounge car is unique in its layout, with a lunch counter serving ten, cocktail booths for eight, and a large open section which seats twenty-two persons. Gas heat is used in the kitchen ranges. The diner-lounge contains quarters for the train stewardess.

Background colors of the observation-tavern-lounge cars are predominantly blue and yellow. Chairs and seats, with a total seating capacity of 48, are upholstered in both fabrics and leatherette, and informally arranged. Windows are 62 in. wide. Murals depicting levees, docks, cotton fields, battle scenes and picturesque New Orleans decorate the observation-tavern-lounge and the dining cars.

Vestibule steps pivot into the car body when the side door is closed, thus becoming a part of the skirt and making for complete streamlining.

All passenger cars are air-conditioned using Waukesha Model-D ice engines of eight-tons capacity, Frigidaire overhead air-conditioning units, Farr air filters and Dorex Type G-3 deodorizer panels. In general, the conditioned air is delivered to the car interiors through center ceiling air ducts and Anemostat diffusers. The latest type Vapor air-conditioning and thermostatic controls are installed. Floor heat is provided by Vapor fin-type radiation units with zone control.

Radios, installed in the observation-tavern-lounge and the diner-lounge, provide music and entertainment. A public-address system is installed throughout the train and may be used to make announcements. Broadcasts from the master radio may also be heard in all cars over the public address system.

The Brake Equipment

To assure smoother and faster stops, the trains are equipped with 24-RL locomotive brake equipment and D-22 car equipment. The electro-pneumatic feature has been added to give maximum flexibility in control of the brakes and to insure the application and release of brakes taking place by electric control on all cars at the same time. An independent speed-governor-control is installed to insure using the maximum braking force of 250 per cent of the car weight or less, in proportion to speed, which can be applied without wheel sliding under normal rail condi-

Passenger compartment in one of the Day-Nite coaches (left)—Women's lounge (right)

Dining car interior (left)—Lunch counter in diner-lounge car (right)

Tavern section (left) and observation lounge (right) in the observation-tavern-lounge car

tions. Mechanical decelostat equipment protects wheels against sliding when the brakes are applied. The control of automatic sanding is associated with the decelostat equipment so that when the decelostat valve functions to restore wheel speed, sand is applied to the rail to insure that the wheel speed will remain normal until the train stops.

Railroad-Built Cars

Cars for the "City of New Orleans," other than coaches, were reconstructed at the Burnside shops from a series of non-air-conditioned coaches which had sound underframes and six-wheel trucks suitable for rebuilding to meet requirements of the new, fast service. These cars were stripped to the underframes and side sills, new posts applied where necessary, the ends rebuilt to conform to A. A. R. strength requirements, and new side sheathing and arched roof applied, using C. B. open-hearth steel in an all-welded construction.

The original cars averaged about 133,600 lb. in weight. The new cars weigh somewhat more, owing to added accessory equipment, but substantially less than they would have, except for the use of lightweight parts such as floor construction, insulation, inside finish including aluminum ceilings, fin-type heating units, thin-wall conduit, etc.

The mail-express car is 80½ ft. long between coupler pulling faces and has a 30-ft. mail compartment and a 47-ft. baggage room. In spite of considerable heavy mail-room equipment, the weight of this car was held down to 136,000 lb.

Similarly, the 80½-ft. baggage-dormitory car weighs 141,400 lb. This car contains a 25-ft. baggage section, a 6-ft. linen room and a 29½-ft. dormitory with lounge, locker and wash-room facilities for a 20-man crew. Provision is also made for a 6½-ft. steward's room and 7-ft. conductor's room, with wash and toilet equipment. The dormitory, steward's and conductor's rooms in this car are air conditioned.

The 82-ft. diner was received at the shop as an air-conditioned parlor car weighing 168,000 lb. The present weight averages 151,000 lb., owing to weight savings mentioned, plus savings in the kitchen and pantry by using Monel metal or stainless steel for cabinets, refrigerators, sinks, etc. The car includes a 17½-ft. kitchen, 9-ft. pantry, 37-ft. dining section with 36 seats, and a 5½-ft. space in one end for the steward's desk and lockers.

The kitchen ranges and hot water heaters use propane-gas fuel. An effective blower and ventilation system keeps the kitchen and pantry relatively cool and the passageway alongside the kitchen also is cooled by a flow of air from the air-conditioned dining compartment.

The frieze board and wainscoting of the diner are either mahogany or walnut veneer and the ceiling cream color. Pier panels are treated with flesh-tint mirrors. Window capping is brown and table tops, tan Formica. Ajax-Consolidated Venetian blinds are cream color, and drapes, Goodall blue fabric. Safety 110-volt a.c. fluorescent light fixtures are installed along the ceiling center line and Safety 64-volt d.c. incandescent side-deck fixtures above the mirrors. Each of the veneered bulkheads is decorated with a Kaufman & Fabry full-color mural.

The diner-lounge car, weighing 148,500 lb., is 80½ ft. long and includes a 24-ft. lounge section seating 22, a 6½-ft. dining section seating 8, a 19-ft. lunch-counter section seating 10, a 16-ft. kitchen and a 6½-ft. stewardess' compartment, fully equipped. The range and steam-tables in this car also are propane-gas operated. All kitchen refrigerating and cooling equipment in this car is General Electric mechanical type.

The same high order of decorative treatment is used in this car as in the diner. Particular attention focuses on the lunch counter section where the ceiling color is light yellow; wall color, medium gray; window shades, commando pattern gold color; seat covering, red leather; lunch counter top, yellow Formica; lunch counter front, satin-finish material with stainless steel kick plate at the bottom; floor covering, Goodyear ⅛-in. synthetic rubber. Safety blue marbelle fluorescent ceiling lights are installed, also a soffit light over each window. Diner and diner-lounge chairs were supplied by Beck and Blatchford.

The observation-tavern-lounge car is 80½ ft. long and weighs 145,000 lb. The 28½-ft. lounge section seats 27. The 14½-ft. tavern section comes next and is highly colorful and decorative with a canopy over the bar and a quilted effect in the full top-grain saddle-finish-leather frieze board, wainscot, bar front and canopy. K. & F. blue-tone murals add to the interest in this part of the car.

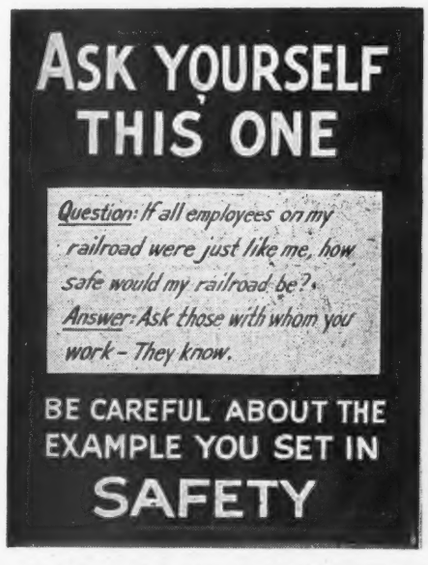
The observation section is 29 ft. long and seats 21. The decorative treatment features a light yellow ceiling, Harewood veneer frieze board and wainscoting, light blue pier panel, pearlescent Formica window capping and table tops, blue draperies and Venetian blinds, Goodall red fabric seat covering, blue floor carpet and General Fireproofing chairs and settees. General illumination is supplied by a continuous fluorescent ceiling trough, the same as in the lounge and tavern sections. The decorative and color treatment in this and all other cars of the "City of New Orleans" was developed by the Pullman-Standard color and design department.

Electric power for lighting and other purposes, exclusive of air-conditioning, is supplied by Safety 10-kw. body-hung generators with Spicer mechanical drive from the truck wheels. Safety motor alternators take 64-volt a.c. power and deliver it as 120 volt a.c. for use in the fluorescent lights. Car batteries are of the Exide-Ironclad type.

Trucks Rebuilt

Six-wheel trucks for railroad-built cars of the trains are of the double-bolster type, with bottom equalizers, elliptic bolster springs and coil equalizer springs. They were equipped originally with friction-type bearings and with American-type clasp brakes. The brake cylinder was body hung and the brake rigging was designed for conventional braking of 90 per cent in full service and 112 per cent in emergency.

For service in the "City of New Orleans," Timken roller bearings were applied to special 5½-in. by 10-in. axles having the same journal centers as the original 5-in. by 9-in. axles. The American clasp brakes were brought up-to-date by adding the A. S. F. Simplex unit-cylinder feature. In other words, truck-mounted brake cylinders and slack adjusters were applied. For this purpose, special castings were developed which are bolted to the truck frame. Since the cars are now designed to brake at 187 per cent in full service and 250 per cent in emergency at high speed, it was necessary to strengthen the clasp brake rigging and to reinforce the truck frame to withstand the forces produced by these high braking ratios. The steel wheels used in these trucks are machined with cylindrical treads.


ASK YOURSELF THIS ONE
Question: If all employees on my railroad were just like me, how safe would my railroad be?
Answer: Ask those with whom you work – They know.
BE CAREFUL ABOUT THE EXAMPLE YOU SET IN
SAFETY

Poster No. 285, June installment of the A. A. R.'s "All the Year—Every Year Safety Program" now being distributed

Pioneering the use of mechanized materials-handling equipment and palletized shipments, railway stores have laid the groundwork for the widespread adoption of new methods for shipping commercial freight

Speeding Deliveries and Cutting Claims

Materials-handling and packaging men discuss ways and means of improving manufacturer-customer relations by reducing damage to shipments—while also lessening carriers' loss and damage claims

FEATURING product protection, "unit-loading" and mechanized handling methods, the Second Annual Industrial Packaging and Materials-Handling Forum and Exposition held in Chicago on April 29 to May 1, inclusive, was highlighted by the presentation of papers and motion pictures depicting the problems encountered by industry and the carriers and the methods used to overcome them. There were more than 80 exhibits showing the latest equipment for all types of packaging and materials handling.

The chief themes of the sessions were built around the desire to achieve a further reduction in materials-handling costs, to attack the ever-increasing loss and damage incurred in transit, and to effect closer cooperation between manufacturing departments and container engineers in designing shipping containers to assure safe and speedy delivery of commodities to the user.

More than 6,000 members and guests attended the three-day meeting. Both morning and afternoon sessions were held, in addition to a banquet on Wednesday, April 30, which was addressed by C. E. Johnson, chairman of the Western Association of Railway Executives.

The program was divided into two sections: (1) packaging, and (2) materials handling. Included on the packaging section program were papers on Cooperation Between Railroad Container Engineer and Shippers, by Warren R. White, container engineer of the Union Pacific; Folding Cartons, by F. V. Powell, president, Lindley Box & Paper Co., Marion, Ind.; and a symposium on Loss and Damage Prevention, sponsored jointly by the Industrial Packaging Engineers Association of America and the Mid-west Shippers Advisory Board, in cooperation with the Chicago Association of Commerce & Industry, Traffic Club of Chicago, Chicago Transportation Club, the Freight Claim Division of the Association of American Railroads, the Railway Express Agency, and the American Trucking Associations.

The materials-handling section was of special interest to the large number of railway men in attendance. The numerous problems encountered in expediting material movements were traced through the papers and movies in a comprehensive manner, with emphasis on the need for further adoption of mechanized materials-handling methods.

Included among the papers dealing with materials handling were: Simplification and Standardization of Containers and Packages for Improved Materials-Handling, by W. E. Braithwaite of the National Bureau of Standards, U. S. Department of Commerce; Application of Fork-Trucks and Pallets in Railroad Operations, by J. W. Cockrill, division storekeeper of the Illinois Central, Centralia, Ill.; Unit-Loading, by J. G. Bucuss, manager, strapping division, Acme Steel Company, Chicago; and the Operation of a National Pallet pool, including a movie illustration, by

D. I. Pursley, vice-president, Lawrence Pallet Exchange, San Francisco, Cal.

Mr. Johnson declared that improper packaging is responsible for a large part of the loss and damage claims paid by the railroads each year. These payments, he said, have increased from $20 million in prewar 1940 to $94 million in 1946, which makes the railroads appear to be suffering from an "epidemic of claim-itis."

Improper Packaging

Continuing, Mr. Johnson pointed out, "The causes of loss and damage to freight in rail transportation are too numerous to mention, but I will say that improper packaging plays an important part in the cause of freight claims. This applies to both l.c.l. and carload shipments. We have found that the best way to reduce or eliminate loss and damage claims is to remove the causes." Packaging engineers, he said, can eliminate millions of dollars of waste through improved packaging, bracing and loading of freight.

The symposium on loss and damage prevention featured a discussion regarding the relative merits of several types of containers and their ability to withstand shock and impact encountered in an average journey. Participants included A. L. Green, special representative, Freight Claim Division, A.A.R.; Don L. Quinn, president, Don L. Quinn Company; Walter Belson, director of public relations, A.T.A.; J. W. Witte, manager, merchandise preparation department, Montgomery Ward & Co., and J. Lebl, chief packaging engineer, Sears Roebuck & Co.

Mr. Quinn conducted drop-tests on ordinary cartons of dishes, fluorescent lighting fixtures and cocktail tables. Breakage was common to all the commodities. Later, tests were performed using similar articles, but packed in redesigned cartons, in which the containers proved damage-free, despite the fact that they were cheaper than those used in the first phase of the test.

A paper on the Importance of Specialized Study of Packaging Requirements, by W. B. Lincoln, Jr., technical manager, Inland Container Corporation, emphasized that every penny paid in claims represents waste, inefficiency and a lowering of our standard of living. "I am thoroughly convinced that much of the money expended for damage, where inadequate containers are responsible, is chargeable to failure to study the special requirements," Mr. Lincoln said.

"Modern industry is developing and producing an enormous number of products which challenge the skill of the packaging engineer. These products are more complex, more costly, and are produced to higher standards of quality than heretofore. Tolerances are much smaller. There is little point in the manufacturing division holding tolerances of a 0.0010 in. if stresses and strains during shipment will result in permanent misalinement of several thousandths. The packaging enginer of today must have appreciation of the problem and know how far to go to secure the desired protection of the high quality designed and built into the product. He must be in a position to familiarize himself in detail with product characteristics and limitations and to make his specialized packaging knowledge fully effective at all times. This means he must, literally, be on the inside in engineering department activities."

The basic theory of the palletized load is to design shipping containers or packages and pallet dimensions to fit a freight car, instead of designing them to hold a certain amount of merchandise.—W. E. Braithwaite, National Bureau of Standards.

* * * * *

By demonstrating what can be accomplished in the field of container engineering, and by encouraging shippers to avail themselves of the services of commercial container testing laboratories, we feel that we have performed a greatly needed service to our patrons.—Warren R. White, Union Pacific.

Mr. Cockrill stated that the constant rise of labor costs has made it necessary for the railroads to resort to improved methods—or means other than hand labor—for handling materials and commodities. After tracing the progress made by mechanized material-handling methods in the stores department of the railways, the speaker asserted: "The fork-truck seems to be the particular machine which lends itself to more flexible use in our constant search for improved methods of handling, storing and shipping materials, as well as the delivery of such items from storage to the ultimate point of use."

According to Mr. Cockrill, palletization, now in its infancy, is destined to play an important, as well as an economical, part in the movement of commodities in the future. In order to get the most from fork-trucks and pallets and to realize the maximum in monetary savings and utilization of space, the users must, of necessity, conduct experiments. The speaker outlined the methods used by the Illinois Central in palletizing numerous articles and stated that purchase orders now carry a notation requesting shipment be made on pallets, where consistent.

Continuing, he said: "Inasmuch as approximately one-third of the cost of operating railroads is for materials and supplies—and the cost of handling such materials and supplies is an enormous figure—we endeavor to plan the initial handling and storage of all palletized items so as to avoid any further or future handling other than the simple movement of the pallet by fork-truck from point of storage to point of use or car for shipment, as we believe the best way to save in handling costs is not to handle it. As testimony of our accomplishments along this line, I might mention that, regardless of the staggering increases in labor cost during the past 30 years, our store expense charges for handling material on the I.C. have decreased three-quarters of one per cent during that 30-yr. period."

Unit-Loading Shipments

In his paper on Unit-Loading, J. C. Bucuss stated: "It has been said that packing and shipping are two of the last frontiers in plant operation. Those of us who are concerned with better packaging and better bracing methods know that we will always be confronted with frontiers. Problems arise daily in our planning, but they are always successfully solved or re-solved through analysis and study.

"While the development of the unit-load is comparatively new, it has nevertheless saved such industries as steel and paper alone thousands of dollers in materials, time and labor that were formerly used for bracing purposes. The unit-load method of bracing is being applied daily for the safe delivery of such commodities as chemicals, food products, and beverages in glass containers, as well as such items as radios, refrigerators, enameled stoves, furniture, automobile storage batteries and hundreds of other products. Through the use of skids or pallets and the floating-load method of bracing, it has been possible to eliminate entirely individual containers in which the product was previously packaged.

"However, most important to shippers, as well as railroads and receivers, has been the reduction in product damage claims. Also, it would be impossible for anyone to evaluate the customer good will that has been gained by shippers as a result of their products arriving at destination without loss or damage."

The methods which will be used in operating a forthcoming national pallet exchange were explained by D. I. Pursley. The operation of such a pool, according to the speaker, is similar in operation to the common use of cars by the railroads. In addition to his address, the speaker also presented a short movie illustrating the operations, and charts showing comparative costs, of palletized shipments compared to conventional method.

Mr. Powell cautioned manufacturers not to be too hasty in making packaging decisions. Every requirement should be considered fully, he declared. Proper size is of the utmost importance. Where the box or carton is too small, damage may result due to protruding parts; in the case of too large a carton, shipping space is unnecessarily wasted. Only after an expert has been consulted and assurance given that all requirements have been met, should the carton be procured, according to the speaker.

Standardization of Containers and Packages

By W. E. BRAITHWAITE

It is estimated that between 75 and 90 per cent of the total cost of moving goods from place of production to the consumer is reflected in packing, container, storage and handling costs, the remainder being the cost of transportation. The problem of how to improve the handling, transportation and distribution of commodities is, therefore, a matter of primary importance to practically all industries of the country.

Since most manufactured products require some form of container, the best method of packing and packaging in each instance is recognized as one of the fundamentals of economical and efficient distribution. There are two important aspects of the problem that present themselves for solution. First, there is the specific requirement of securing the least expensive and, at the same time, the best type of container available for a specific purpose. There are also the further problems of the most practical dimensions, shapes and capacities; the most easily handled types of containers; and the most satisfactory unit of pack from the consumer's point of view. These aspects concern not only the manufacturers of containers and the producers of merchandise, but the carriers and all users of a particular commodity as well.

In the interest of coordination and consequent economy, each step in the handling of a product should be considered both independently and with respect to related steps, beginning with the unit package or primary containers in which the product is packed by the manufacturer, through the shipping container, the method of handling and, finally, the best means of transportation to reach the ultimate consumer.

A relatively new philosophy of simplified packaging and handling which effects tremendous economies in shipping space and handling costs is the use of pallets in the shipment of merchandise. The use of the pallet is not new, but its full possibilities were not realized in practice until the Navy and War Department applied the system to their operations. Faced with the necessity of transporting millions of items of various sizes at a time when any delay or waste of shipping space might precipitate critical war emergencies, the Navy developed a simple, time-saving, labor-saving, and space-saving formula for expediting the handling of the colossal volume of merchandise and supplies which passed through its depots in a never-ending stream.

The basic theory of the palletized load is to design shipping containers or packages and pallet sizes or dimensions to fit a freight car, instead of designing them to hold a certain amount of merchandise. Using the Navy method, an operator on a fork-lift truck removed a carload of merchandise from storage and loaded it into a freight car in two hours. Before this system was adopted, the same work required 14 men a half day each. This spectacular saving is being repeated in many plants today and holds out tremendous possibilities for the efficient and expeditious handling of merchandise in the future. Leaders in industry claim that the basis of efficient materials handling is standard packages. With standards, appropriate equipment can be installed with full knowledge that it will be used advantageously and efficiently. Lost motion, wasted effort and time will be largely eliminated.

Railroad Container Engineer—and Shippers

By WARREN R. WHITE

Loss and damage claims are an economic loss which the parties involved can ill afford. No claim settlement is entirely satisfactory, even when paid promptly and in full. Disappointment, delays and annoyance follow in the wake of "bad-order" deliveries. Consider the plight of the distributor who receives a periodic shipment of a scarce commodity, only to find that 20 per cent or more of the items are unsalable. His dealers and their customers are "sore," the shipper suffers loss of good will, and, of course, the carrier is damned in the bargain.

Without trying to whitewash the carriers' faults, I can say that much of the responsibility lies with the shipper. Presumably, it is the responsibility of the shipper to prepare his shipments so they will withstand normal handling in transit. Rule 5, Sec. 1-a of the Consolidated Freight Classification reads: "Articles tendered for shipment will be refused unless in such condition and so prepared for shipment as to render the transportation thereof reasonably safe and practicable."

Reputable shippers endeavor to comply, knowing that business gravitates to the shipper whose products arrive in salable condition, even though they may be of secondary intrinsic value. The most meritorious product is at a discount if received unsalable.

Admitting all this, what is to be done about it? About a year and a half ago, the Union Pacific became aware of the fact that it was in a position to see bad-order shipments, which may have left the factory in seemingly good order, but which could not withstand normal handling. So, it employed a container engineer to cooperate with shippers in their packaging problems. Since this was a new departure in the field of railroading, as it was in the field of container engineering, it is dscribed briefly, as follows:

Shipments in bad order are inspected at terminals, transfer points and at destination over the entire system. Condition is noted and cause of failure analyzed. A complete and detailed report is submitted to the shipper, either by letter or by personal call. Often the report is accompanied by photographs or drawings or whatever is necessary to convey the message. In every instance, concrete suggestions are offered to correct the weakness that resulted in failure. This sounds simple, but sometimes it may be more complex than it appears at first thought. Rough handling of cars, careless handling by loaders, truck damage if trucked to station at origin, method of stowing at some point along the line, or failure to brace properly, are but a few of the factors that must be taken into account, although they may not be present at time of inspection.

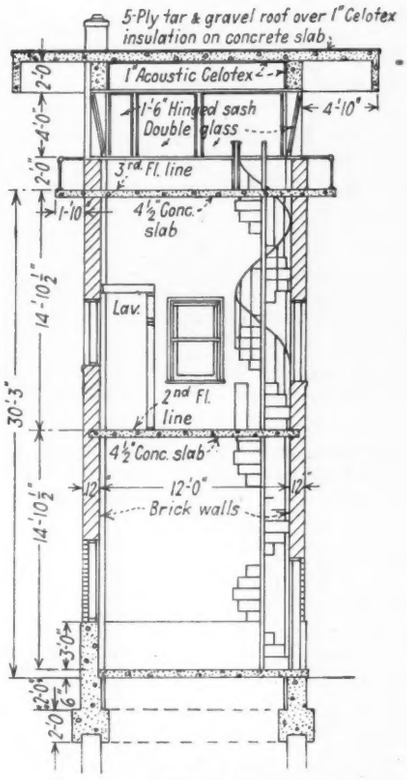
What about the attitude of the shipper toward our efforts? Without exception, the reception has been favorable and the suggestions have been adopted in whole, or part, in almost every instance.

Perhaps some will think that the U.P. advocates assuming shippers' responsibilities in the preparation of their merchandise for transportation. Such is not the case. By demonstrating what can be accomplished in the field of container engineering, and by encouraging shippers to avail themselves of the services of commercial container-testing laboratories, we feel that we have performed a greatly needed service to our patrons. It is the thought of the Union Pacific management that if all railroads were to do this kind of work, much misplaced criticism now heaped on the carriers would be eliminated. Shippers, consignees and their eventual customers would have less reason to wail over damaged merchandise and the claim payout would reflect a saving that is now an unwarranted economic loss.

What Type Communication Towers?

Modern structures, featuring "picture" windows, balconies, wide overhanging eaves, and air conditioning, are adding much to the effectiveness of operations and supervision

Left—One of the two fireproof yard-communication towers built by the Denver & Rio Grande Western at its Roper yard, Salt Lake City, Utah



Right—The D. & R. G. W. tower typifies the permanent type of construction, as shown by this vertical section

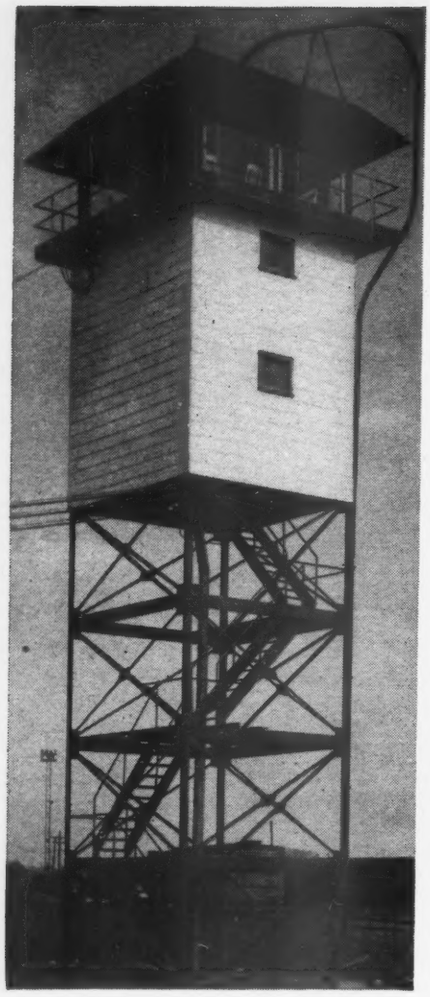
THE increasing number of new installations of loud-speaker communication systems in yards is casting into the discard many of the old-style hump shanties and yard offices and, in their stead, is calling for a new type of modern, fire-resistant structure distinct in many respects both as to architectural style and utility. This increase in modern yard communication installations has not reached its peak, with the result that many more roads will be confronted with the necessity of providing such structures if they are to realize the full efficiency and economy from these modern communication systems.

The addition of car retarders to hump yards some years ago started a trend toward the modernization of yard buildings that is still continuing. While the usual single-story hump shanty, with its semaphore or light signal to direct operations, may have been adequate for housing the car riders and operating the humps in an earlier day, something much more appropriate became necessary for the efficient operation and control of car retarders, since the operators must have a wide view of the yard at all times, one that cannot be obstructed by cars being classified. Furthermore, with the installation of these units, space is required for the safe housing of the expensive control equipment.

These necessities mothered the design of present modern control towers, with their panoramic view of the yard leads and ladders from a position in front of the control machines on the top story, and their lower floors for housing the auxiliary electrical equipment, sanitation facilities, etc. Furthermore, it has made imperative some degree of fireproofing as an integral feature of these structures to offset the potential hazard of fire destroying this expensive equipment, and thereby completely disrupting the operation of the yard.

As a result of the installation of car retarders and modern control towers in many hump yards, flat yards, in comparison, have remained a sort of "poor relation," with insignificant yard offices and obsolete methods of communication between the yardmaster and crews. Recent developments in various methods of yard communication, however, such as inductive systems, space radio, and talk-back loud-speakers, and their adaptation to all types of yards, have added to the utility of the observation type of tower until such towers are now advantageous where flat switching is performed. Thus, there has been developed a type of structure useful as a control point and yardmaster's office in all classes of yards, and without which fewer benefits could be realized from the recent technological advances in modern devices that are proving so effective in the speedy receiving, classifying and dispatching of cars.

While these structures may vary in details of design and construction, they must all incorporate certain fundamental features. First, they must be high



Communication tower constructed by the Kentucky & Indiana Terminal in its Youngstown yards at Louisville, Ky.

enough, and be so constructed as to afford an unobstructed view of the area involved. Second, they must be fire resistant, so as to preclude the possible damage or loss of the expensive communications equipment, and the consequent throttling of yard operations. Third, they must provide adequate machine and working area on the top, or control, floor, and sufficient area on the floors below for the electrical operating mechanisms, for work, locker and toilet rooms and, where desirable, space for auxiliary offices. Fourth, there must be complete soundproofing of the control room by means of acoustic material on the walls and ceilings, and double pane windows to exclude noise.

In addition, modern design calls for wide, overhanging eaves and special glare-reducing and heat-absorbing glass in the control room to reduce the eye strain on the operators. Also, from the acoustical necessity of keeping windows closed, there arises the requirement that the control room be air conditioned.

As to the general design and materials of construction, these may be influenced by many local conditions, such as the degree of permanence desired, exposure to public view, availability of materials, climate, and the amount of expenditure justified. Obviously, a road might be warranted in constructing a much more attractive structure in the vicinity of one of its important passenger stations, or even along its main line, than out in one of its classification yards far from public view; and yet equally as permanent and attractive a structure may be fully warranted in a yard location where the importance of the installation and service conditions may require it—and it can often be built at relatively little additional cost, while assuring better working conditions and lower routine maintenance costs.

Modern communication towers may be constructed of concrete, brick or steel, or a combination of these materials, together with a variety of wall and wall-facing materials, roof and floor coverings, window glass and arrangement, and other structural details. That there be standardization in these features is not necessary or desirable. What may be entirely practicable, if not necessary, under some conditions, may be impracticable or undesirable under others.

Typical Yard Towers

That these considerations have been given effect in the building of some such structures is seen in the two modern, three-story towers constructed recently by the Denver & Rio Grande Western in its Roper yard at Salt Lake City, Utah, in conjunction with the installation in that yard of a paging and talk-back loud-speaker system designed to put the yardmaster in constant touch with road and yard conductors.*

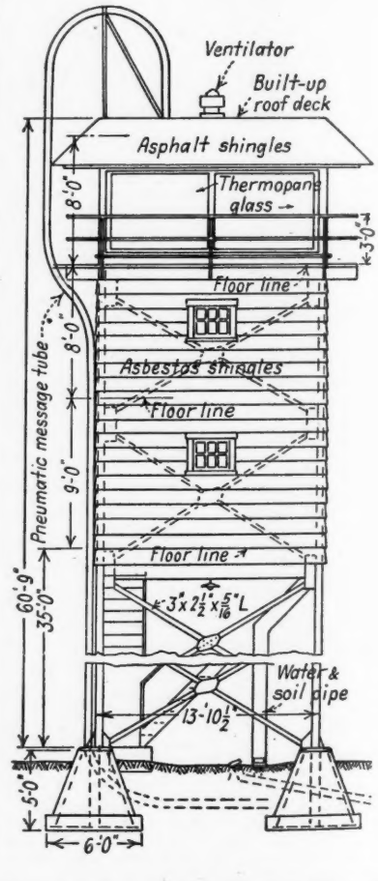
Each of these towers is constructed of reinforced concrete and face brick, and is designed in much the same manner as control towers at present-day airports—with a canopy roof; sloping, hermetically-sealed, double-pane windows on all four sides; air conditioning; and a pneumatic tube system for the transmission of messages between the various floors and to and from the main yard office some distance away. Each tower has three floor levels, is 38 ft. high, and is 12 ft. square on the inside.

Practically all of the special features of these towers are concentrated above the second-floor level, and are designed for the convenience and comfort of the yardmaster in his use of the control panel operating the loud-speakers. In the third-floor room the floor is a reinforced concrete slab, 30 ft. 3 in. above the top of rail, which extends about 2 ft. beyond each wall to serve as a catwalk for washing the windows. These windows are four feet high, are stationary, except for two small hinged sashes at opposite corners, and are tilted forward at the top to reduce glare. The stationary windows are glazed with double-thickness plate glass, the outside layer being ¼-in. heat-absorbing glass, and the inside layer ¼-in. plain glass, with the air space between dehydrated and hermetically sealed.

The roof is a flat, reinforced-concrete slab that extends 5 ft. beyond the walls on all sides to form the top of the shading canopy, and a 24-in. peripheral coping makes the roof as a whole look like a shallow box inverted on the top of the tower, but serves the added purpose of further shading the windows. The roof is covered with five-ply tar-and-gravel roofing over 1-in. Celotex insulation cemented to the slab.

The ceiling and walls of the third floor above the windows are covered with 1-in. acoustical Celotex, cemented to the concrete. The floor is covered with 3/16-in. Johns-Manville asphalt tile with molded-asphalt cove base, laid in asphalt cement. This type of tower is fire-resistant to the point of being prac-

(Continued on page 947)



This elevation of the K. & I. T. tower illustrates its frame-type, fire-retardant construction

* A description of the communication system installed in this yard appeared in the *Railway Age* of March 22.

A. A. R. Study Group Reports on Railroad Finance

Tells of industry's achievements in building up plant while reducing debt, and stresses need for adequate earnings if favorable factors in future outlook are to become fully effective

FINANCIAL records and achievements of the railroads, "in building up their plant while reducing their debt," during the 25-year period from 1921 to 1945, are set out in a report which has been issued by the Subcommittee on Finance of the Railroad Committee for the Study of Transportation. The latter is part of the research group sponsored by the Association of American Railroads, which has been functioning for the past five years under the general chairmanship of R. V. Fletcher.

The present report, entitled "Railroad Finance," is a document of 46 double-column pages, and it was previewed by Judge Fletcher in a statement issued last February, as noted in the *Railway Age* of February 22, page 408. As the former A. A. R. president said at that time, the report's basic conclusion is that the railroads must be allowed to earn a return of not less than 6 per cent in order to insure continued investment in improved facilities to provide adequate rail transportation without which the country can neither wage war nor carry on business successfully.

General Conclusions

Judge Fletcher pointed out in the foreword to the report that all members of the subcommittee are "vice-presidents in charge of the financial administration of their respective railroads." They are: Chairman R. E. Connolly, Illinois Central; John B. Hyde, Southern; George H. Pabst, Jr., Pennsylvania; W. F. Place, New York Central; R. L. Snodgrass, Baltimore & Ohio; and John G. Walsh, Southern Pacific. The general conclusions reached by the subcommittee are summarized as follows:

1. The national transportation policy, as declared by the Congress, looks to developing, coordinating, and preserving a national transportation system "adequate to meet the needs of the commerce of the United States, of the postal service, and of the national defense." Since the railroads are the most important part of the national transportation system, the implementing of that policy with respect to the railroads is essential to the national security and a sound economy.

2. That policy can be implemented only if the railroads' financial position and credit enable them to continue to develop and preserve their properties devoted to transportation service. Railroad management should, therefore, endeavor to secure an attitude toward the railroad industry by the Congress and by governmental regulatory bodies (federal and state) which will enable the industry to maintain a level of earnings assuring the continuance of a strong financial position.

3. Such a sustained level of earning power for railroads as a group should be an annual return of not less than 6 per cent on the value of their investment, averaged over the years. This will enable them to meet charges, pay adequate dividends, and finance their improvement programs.

4. Railroads should continue to reduce interest charges through debt retirement and refunding.

5. The owners of railroad properties are entitled to an adequate return on their investment. Payment of regular dividends is essential to a satisfactory credit status and to the financing of capital improvements through the sale of stock.

6. Earning power is the key to future railroad welfare, which is closely linked to national security and prosperity. Whatever policies are adopted by Congress, by governmental, executive and regulatory bodies, and by the railroads themselves, to benefit the financial position and strengthen the credit of the railroad industry—taken collectively and individually—are and will continue to be in the public interest.

Discussions leading to these conclusions are embodied in eight chapters, the first seven of which consider, in turn, the railroad plant; investment in railroad property; capitalization; net earnings and their disposition; changed trends in financing; railroad credit; and "a fair rate of return." The final chapter, entitled "Looking Ahead to the Future," anticipates that the railroads may expect "a continuing substantial amount of gross revenue," but the net earnings possibilities "are not so clear."

Favorable Factors

In the latter connection it is pointed out that wage rates per hour and unit costs of fuel and other supplies increased "more than 50 per cent" between 1940 and 1947, while the payroll taxes rose 46 per cent. Meanwhile, freight rates have gone up only 17.6 per cent and basic passenger fares are only 10 per cent higher than the 1940 level. The report asserted, nevertheless, that railroads and railroad investors "have reason to look forward with some confidence to the financial future of the industry"; for "despite the misfortunes of a minority of the industry, the great bulk of all railway financial obligations have been met in the past, and the railroads may be relied upon to spare no effort to meet them in the future."

Other favorable factors listed are the outlook for a high level of general business activity; the experience in efficient operations which the railroads gained during the war; and, "most important," the fact that "the public has come to have a deeper appreciation of the essential role of the railroads in the life of the nation and a greater realization of the need for safeguarding their well-being and progress."

The report warned, however, that for these factors to become "fully effective," they must be "translated into appropriate action by regulatory authorities to carry out the declaration of national policy."

Fair Return

In its earlier discussion of the "importance of earning power," the report had asserted that "stockholders can be attracted only by the prospect of a fair and reasonably steady return." It went on to say that during the 1921-1945 period as a whole, an average of 53.1 per cent of all railroad stock yielded dividends, while 46.9 per cent failed to yield dividends. "During the war years 1941-1945, when the railroads pursued a conservative dividend policy," the report added, "the percentage of all railroad stock which yielded dividends rose to only 54.1 per cent."

As to "an adequate level of earnings," the report suggested that two approaches showed that a "minimum level" for the Class I roads as a whole "is not less than 6 per cent on the fair value of their investment." One such approach is by comparison with what is accepted as fair and reasonable for other regulated industries; and the Supreme Court "as lately as 1942 and 1944 has held a return of 6½ per cent to be fair and reasonable for public utilities."

(*Continued on page 947*)

The Burlington Believes in Denver

Large investments made during the past few years to insure adequate facilities and efficient operation

REALIZING the growing importance of Denver, Colo., as a manufacturing and jobbing center, the Chicago, Burlington & Quincy has spent several million dollars in improving its facilities in that city in the past two years. The result has been not only to supply the additional transportation capacity necessary, but also to simplify and render more efficient the operations within the Denver terminal area.

The improvements have comprised rebuilding and modernizing almost all Burlington facilities in Denver, including two enginehouses and a freight-house. They have also involved the construction of a new power plant and of a modern Diesel-electric locomotive repair shop—the latter designed to handle the running maintenance and repair not only of the Diesel switchers operated in the terminal but also of the Diesel road freight locomotives, which handle practically all of the freight movements on the main line east of Denver.[1]

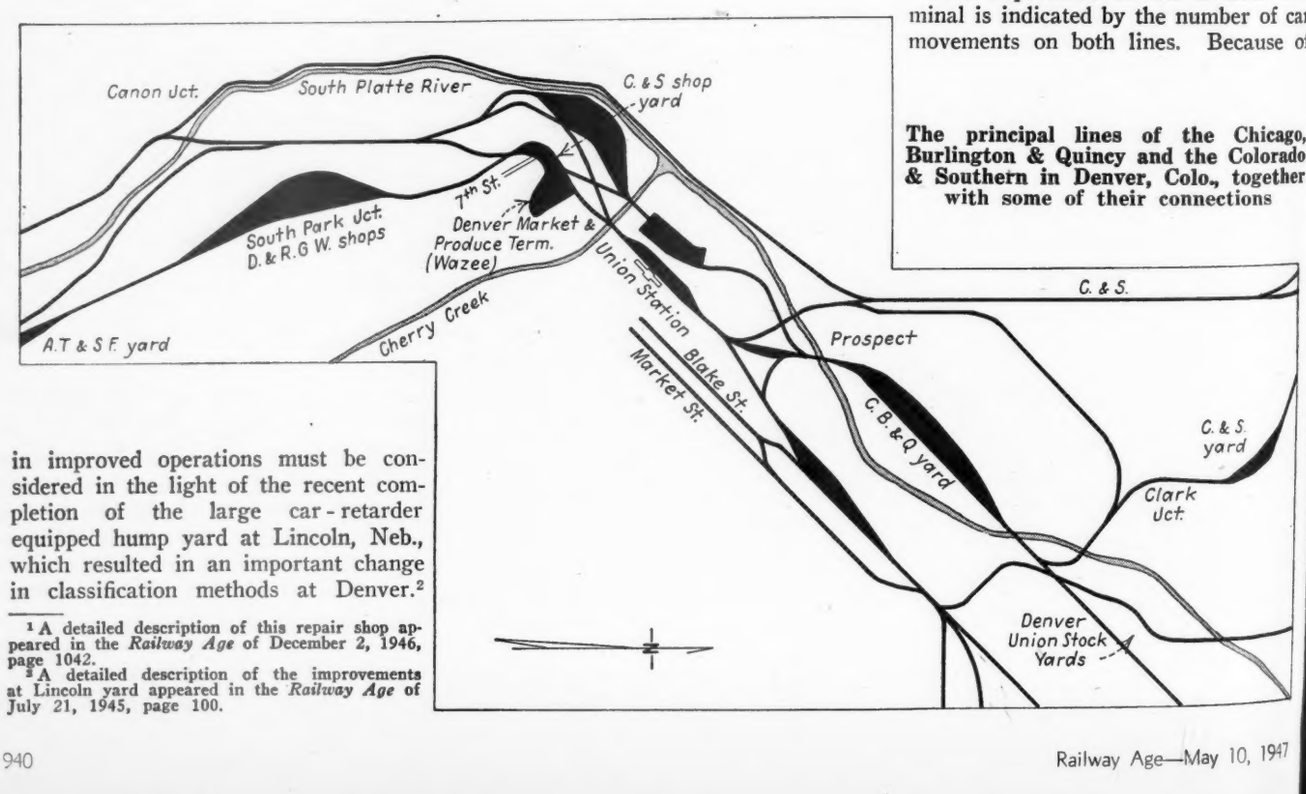
The two most costly and far-reaching improvements involved extensive rebuilding of the Burlington and the Colorado & Southern freight yards in Denver. This work has been a part of a general yard improvement program on the Burlington, and its effect in improved operations must be considered in the light of the recent completion of the large car-retarder equipped hump yard at Lincoln, Neb., which resulted in an important change in classification methods at Denver.[2]

For example, the interchange on through freight traffic between the Burlington and the Denver & Rio Grande Western and Union Pacific has been materially speeded up since the completion of the Lincoln yard. Trains from the east now arrive in Denver with D. & R. G. W. and U. P. blocks classified at Lincoln at the head end. These cars are not yarded or classified at Denver, but are delivered to the D. & R. G. W. and U. P. within an hour after their arrival in Denver and are on their way west, under ordinary conditions, within two hours after their arrival.

The rebuilt yards at Denver are situated approximately one mile apart and, in both instances, careful consideration had to be given to their design because of restricting features involved. The Burlington yard is situated in a bend of the Platte river, and bridges over that river at each end of the yard prevented expansion. However, a design for rebuilding was worked out which has resulted in the elimination of doubling-over in order to make up trains. The yard formerly had only one track capable of holding 70 cars, whereas, as rebuilt, there are four tracks with a capacity of 100 cars each. The C. & S. yard is situated in a heavily-industrialized area, close to the passenger station. It is bounded on one side by the Platte river and on another by Cherry creek. In addition, Seventh street formerly ran through the middle of the yard at grade, with obvious handicaps imposed to efficient operation. Seventh street has now been closed and, by ingenious methods, room was found to lengthen the tracks so that, instead of there being only two tracks that could hold as many as 50 cars, there are now four tracks which will hold up to 90 cars.

The improvements in the Burlington yard were completed in the fall of 1945 and those in the C. & S. yard in October, 1946. The C. & S. has been a subsidiary of the Burlington since 1908, but separate yard facilities are required for the two lines in Denver for a variety of reasons. One is that the two lines serve almost entirely separate industrial areas—the Burlington, eastern Denver, and the C. & S. the southern section of the city. Also, the Burlington is principally an east-west line into Denver, with a larger interchange with other lines than the C. & S. The latter line runs through the city in a north-south direction and not only interchanges with lines other than the Burlington but also has a considerable traffic through Denver over its own rails.

The importance of the Denver terminal is indicated by the number of car movements on both lines. Because of



The principal lines of the Chicago, Burlington & Quincy and the Colorado & Southern in Denver, Colo., together with some of their connections

[1] A detailed description of this repair shop appeared in the *Railway Age* of December 2, 1946, page 1042.

[2] A detailed description of the improvements at Lincoln yard appeared in the *Railway Age* of July 21, 1945, page 100.

The Burlington recently completed extensive improvements and additions to its yard at Denver, which, together with improvements in the Colorado & Southern yard—one mile distant—provide ample facilities for speedy handling of freight

seasonal traffic and other factors, October is the peak month. In October, 1946, the Burlington handled 83,093 car movements through the terminal, compared with 80,492 in 1945, while the C. & S. figures were 51,862 for 1946 and 56,000 for 1945. During the month 30 switch-engine tricks were operated on the Burlington and 26 on the C. & S. Just prior to the heavy fall movement, the Burlington received seven new 1,000-hp. Electro-Motive Diesel switchers, which replaced older Diesel switchers previously operated, and aided materially in handling the heavy fall business, taking care of an average of 21 of the switching tricks on a 24-hr. basis. The C. & S. has three Diesel switchers of the same type on order, which, when delivered, will mark the first use of Diesel power on that railway, except for two passenger locomotives operating on its streamlined "Texas Zephyr."

Joint Operations

The Denver terminal has an unusual number of joint facilities, trackage rights, agreements, etc., and the closest cooperation between the various railways involved is essential in order that smooth, efficient operation may be attained. For example, the terminal superintendent of the Burlington at Denver is also the terminal superintendent for both the C. & S. and the Atchison, Topeka & Santa Fe. Freight and passenger service between Denver and Pueblo is handled by the C. & S., the Santa Fe and the D. & R. G. W. on the basis of using the Santa Fe and the Rio Grande tracks between these two points as a double-track railway. The C. & S. rails between those two points were taken up several years ago as being an unnecessary duplication of facilities. Under the terms of this agreement, which is of many years standing, the C. & S. handles all Santa Fe yard work and industrial switching in Denver, while the Santa Fe performs similar duties for the C. & S. in Colorado Springs and Pueblo.

Within the terminal itself, there are several more joint operations. The Union Pacific and the Burlington operate a joint belt line serving the Market street and Blake street industrial areas —the U. P. switching industries for both roads on one street and the Burlington on the other—although both roads may switch on either street. The Burlington handles all switching at the packing houses for all lines entering Denver. The very large Wazee produce market switching area is handled on a joint basis by all roads, except the U. P. The Burlington freight house, which was modernized two years ago, is situated just across the street from the joint Santa Fe-C. & S. freight house, and the operations of these two houses have been coordinated to the greatest extent possible. There are, in addition, several other joint tracks in the terminal.

The Denver Union Terminal Company, owned by all lines entering Denver, is an operating company for the Union Station only. All trains arriving at and departing from Denver use the Union Station, with the exception of one local passenger train in each direction daily on the Denver & Salt Lake, which used the D. & S. L. station. The switching at the Union Station is done under the jurisdiction of yardmasters employed by the terminal company, but by the individual locomotives and crews of each line. These crews report to the yardmasters while in the station, but to the foremen of their own lines while in the coach yards. The C. & S., Santa Fe and Burlington operate a joint coach yard.

The Traffic Handled

Since its inception as a trading post, Denver has continued to serve a large geographical area as a jobbing center. In recent years, and particularly during and since the war, it has been coming to the fore as a manufacturing center; rubber, cement pipe, and iron and steel products being leading industries.

Since there is a large stock yard in Denver and it is in the cattle country, the movement of livestock comprises a sizable percentage of the total traffic handled. Cattle are brought in from the ranges adjacent to the C. & S. lines, either for slaughter at the Denver yards or for movement to Chicago and other eastern stock yards. In addition, there

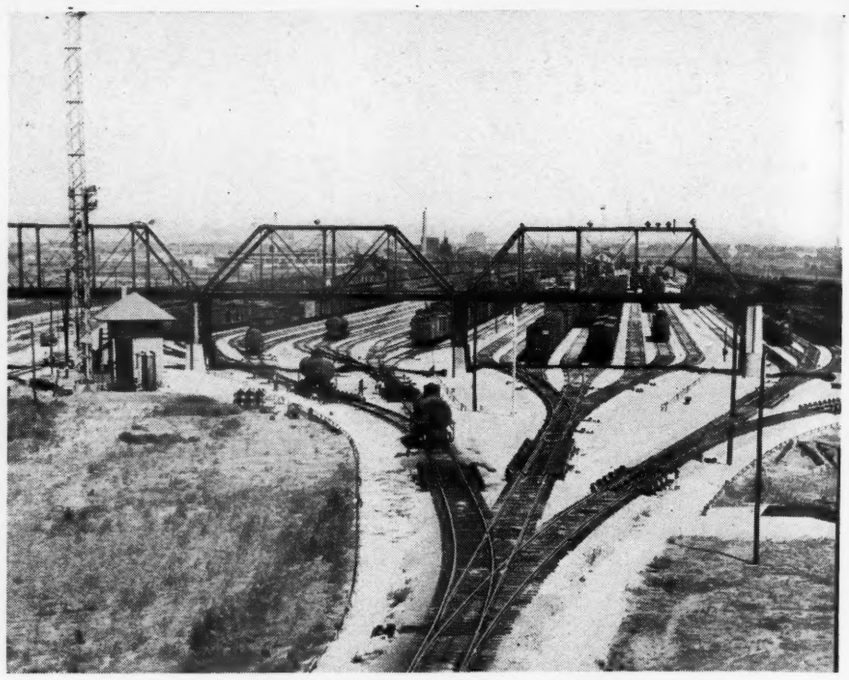
is a large annual movement of range cattle to feeder lots in Iowa and Illinois. For six weeks each year, there is a movement of several thousand carloads of sheep through Denver, from the sheep-growing areas of Colorado west of the Continental divide, to eastern feeder lots. Since this stock, under federal law, must be fed and watered every 36 hrs., the switching through the Denver terminal must be rapid in order not to delay the movement unduly.

A considerable volume of perishable freight from the Pacific coast for eastern markets is handled through Denver on fast schedules, which require prompt interchange between the U. P. and D. & R. G. W. and the Burlington. In addition, there is a seasonal movement of several thousand cars of peaches from the territory in the vicinity of Palisade, Colo., to the east. An average of 3,000 cars per year of fruits and vegetables, raised in the immediate vicinity of Denver, are shipped from the 14 fruit and vegetable packing plants located in Denver itself. Making schedules on these cars of perishables has been greatly facilitated by the yard expansion at Denver and also by reason of the fact that, since the opening of the retarder yard at Lincoln, the cars of perishables can be sent through to this facility for classification, instead of grouping them in the flat switching yards at Denver.

There are several large grain elevators in Denver and these, with the packing houses, require prompt placing of empties and picking up of loads.

A large movement of iron ore passes through the Denver terminal each year, en route from the iron mines situated at Sunrise, Wyo., to steel mills at Pueblo. These mines are located on the Colorado & Wyoming, which terminates and uses the facilities of the C. B. & Q. at Guernsey, Wyo., about eight mi. from Wendover, Wyo., northern terminus of the C. & S. Between the mines and Denver, the traffic is divided between the Burlington and the C. & S., the Burlington's route being east from Guernsey to Northport, from which point it is brought in to Denver on the Denver-Alliance main line. Both the C. & S. and the Burlington handle this ore as fill-outs to regular trains north of Denver. On arrival at Denver, however, it is consolidated into solid trains for movement over the C. & S. to Pueblo. Only about 30 cars of ore can be handled in one train south of Denver, as the C. & S. crosses the summit of a high ridge at Palmer Lake, Colo., about half way between Denver and Pueblo, which poses adverse grades against both north and southbound traffic.

Another seasonal movement through the Denver terminal consists of sugar beets, which are raised in large quantities along the main line of the Burlington east of Denver. The beets raised east of Tampa, Colo., 40 mi. east of Denver, are handled to the sugar mills at Ft. Morgan, Colo., and Brush. However, the beets raised between Tampa and Denver are processed at Longmont, Colo., 43 mi. north of Denver. The movement averages 50 cars a day for a two-month harvest season. A turn-around run is operated for placing empties and picking up loads between Denver and Tampa. The beets are handled through the Denver terminal without yarding or classification, and are hauled to Longmont by another turn-around run, which operates via the C. & S. from Utah Junction, just outside of Denver, to Broomfield, under a trackage right agreement, and thence to Longmont over a Burlington branch line which parallels the C. & S. Broomfield-Longmont line some six mi. to the east.



Solid blocks for connecting roads at Denver are assembled by the Burlington at Lincoln, Neb., a yard which was extended and improved in 1945

Terminal Classification

The Burlington has two regularly-scheduled freight trains in each direction daily between Denver and Chicago and also operates one regular freight daily in each direction over the secondary line between Denver and Alliance, which leaves the main line at Brush, Colo. The C. & S. operates two regular trains north from Denver in each direction daily, and two regular trains south in each direction. To these latter, the ore trains must be added.

During the war, the Diesel-powered freight trains on the Burlington main line to Chicago were limited to 85 cars. With the return of peace-time conditions, this limit has been restored to the former figure of 100 cars. As a result, except seasonally, the two regular freight trains east handle all the business, with the exception of an average of about one extra train a week. However, in the stock shipping and perishable seasons, it is frequently necessary to operate extra trains loaded solidly with stock or with fruits and vegetables.

The opening of the new yard at Lincoln has simplified the Denver classification work materially. On eastbound trains, cars for McCook, Neb., are grouped, but the rest of the cars are sent to Lincoln without classification in Denver. Three groupings are made on C. & S. northbound trains, one for Fort Collins, one for Cheyenne and one for points north of Cheyenne. Southbound, the C. & S. yard classifies a Trinidad-Dalhart group and another group for beyond Dalhart. On the Alliance line, the Burlington makes a classification for Sterling, Colo., and another for Alliance.

The growth of Denver as an industrial center required the provision of additional transportation facilities. Also, one of the major post-war problems of the railways has been the elimination of terminal delays through the speeding up of interchange between railways within a terminal. Both of these aims have been realized with the completion of the improvement program of the Burlington-C. & S. in the Denver terminal.

Milwaukee Block System Saves Time

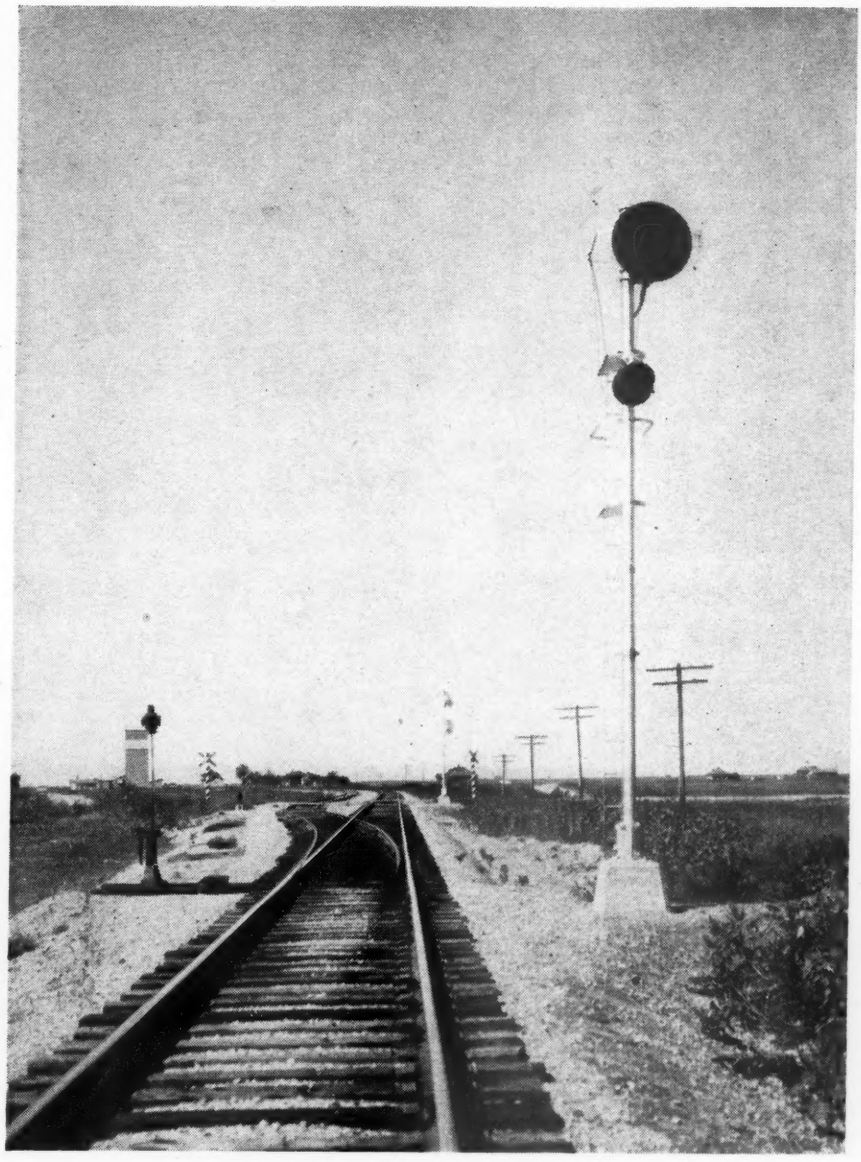
Project including hand-throw siding switches with signals under control of dispatcher to authorize train movements is adapted to 98-mi. medium-traffic single-track engine district

THE Chicago, Milwaukee, St. Paul & Pacific has recently completed the installation of a controlled automatic block system on an engine district of 98 mi. of single track between Aberdeen, S. D., and Mobridge, which was formerly manual block territory. The new signals are controlled automatically by track circuits on all main track, and the signals at the sidings are controlled also from the dispatcher's office. With the exception of one siding and one yard lead switch where power machines were installed, and one siding switch equipped with a spring-switch mechanism, the main-track switches are operated by hand-throw stands, as before.

An important advantage of this system is that train movements are authorized by the indications of the signals controlled by the dispatcher, thus superseding timetable and train-order operation. The expense for attaining this objective, over and above the cost of conventional automatic block, was offset to a large extent by: (1) using a minimum number of intermediate signals; (2) the elimination of local signal-line control circuits and power distribution circuits; and (3) superimposing the code-line controls and indications on the existing telephone train-dispatching circuit.

In addition to the "Olympian," operated in two sections each way daily, there is a local passenger train each way, thus totaling six passenger trains. A local freight train is operated westbound daily except Sunday, and two time freights on fast through schedules are operated each way daily. Extra trains are operated as required; for example, when live stock is moving eastward in the autumn, as many as 10 stock trains may be operated daily. Therefore, the number of trains operated daily may range from a minimum of about 14 to a maximum of 25. The problem was to design a signaling system that could readily be justified economically by a medium number of trains, both passenger and freight, operated on fast through schedules. The requisites for a signal system, therefore, were not only safety but also train operation by signal indication as a means of saving train time as well as reducing operating expenses.

This district is a part of the Milwaukee's through route between Chicago and Seattle-Tacoma, Wash., 2,189 mi., Aberdeen, the east end of the project, being 706 mi. west of Chicago. The line crosses rolling prairie. From Aberdeen to M. P. 66, which is between Alamo and Java Jct., the grade is light, ascending gradually from 1,298 ft. elevation at Aberdeen to 2,132 ft. at M. P. 66. Also on this 66 mi. of line the curvature is light, with long sections of tangent ranging from 7 to 10 mi. West from M. P. 66, the line descends to the Missouri river at Mobridge, at elevation 1,653 ft. In this 33 mi. there is 30 mi. of 0.5 per cent grade descending westward, with a considerable number of curves, none being in excess of 1 deg. Within the past year the track on 88 mi. of this subdivision was rebuilt, using new 112-lb. rail, new



An "S" in the lower signal unit indicates stop the train, throw the switch and enter the siding

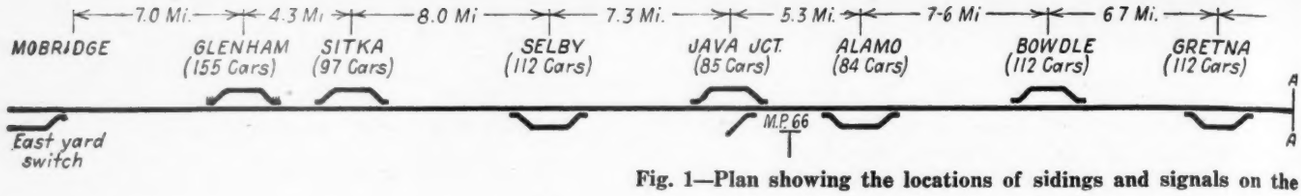
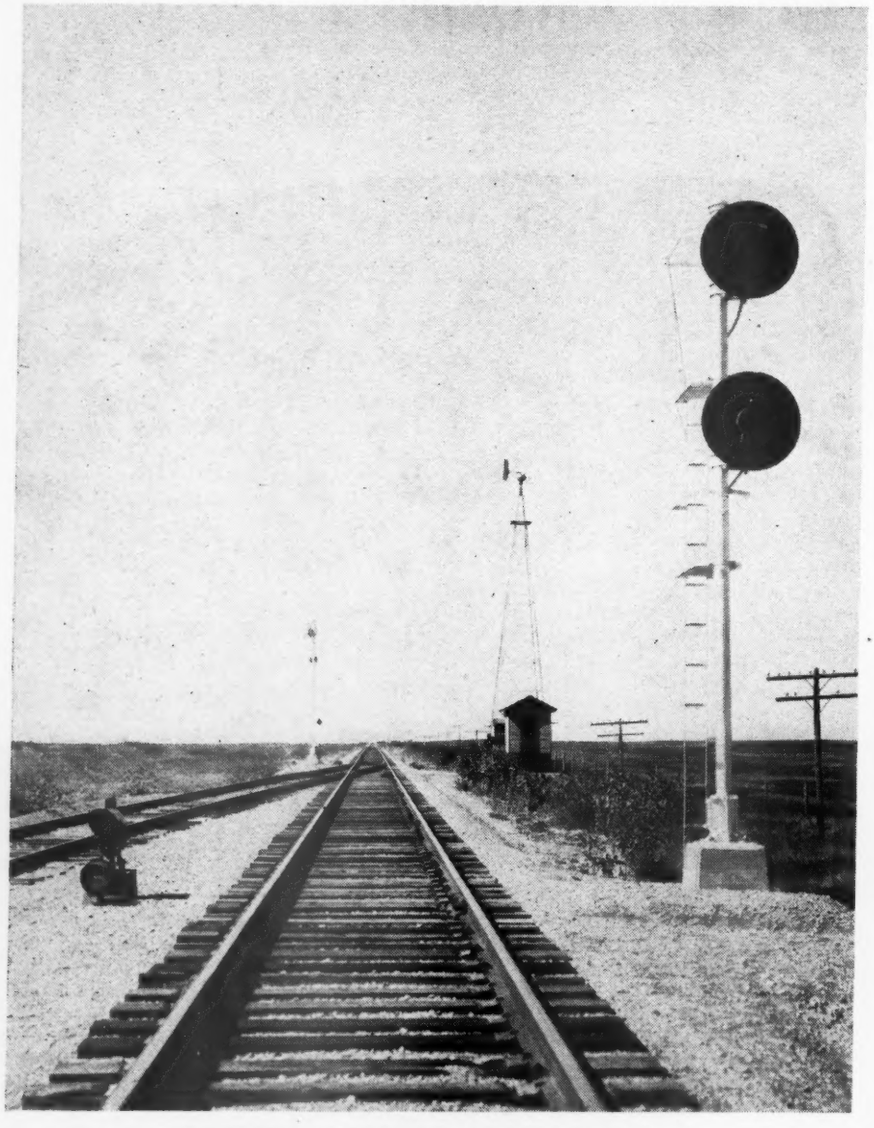


Fig. 1—Plan showing the locations of sidings and signals on the

ties and ballast. Several major line changes were made to reduce the maximum curvature to 1 deg. The alinement, grades and improved track contribute to the practicability of operating trains at high speeds.

The tonnage rating of the Class S-2 freight locomotives westbound from Aberdeen to Java Junction is 3,800 tons, and of the L-3 locomotives, 2,900 tons, while it is 7,000 tons and 5,500 tons, respectively, for the two types of locomotives from the latter point to Mobridge. Eastbound from Mobridge to Roscoe the S-2 locomotives are rated at 4,800 tons and the L-3 at 3,700. With a helper eastward up the grade from Mobridge to Alamo, the tonnage can be increased to 5,000 tons for both the S-2 and the L-3 locomotives. From Roscoe eastward to Aberdeen the grade descends gradually so that the S-2 locomotives can handle 9,000 tons and the L-3 locomotives 8,000 tons. Scheduled time freights are given less than maximum tonnage so they can make fast time. In instances where light-tonnage through freight trains lose no time in making meets, they can make the run in either direction in 4 hr. The through passenger trains make the run in about 2 hr. 10 min.



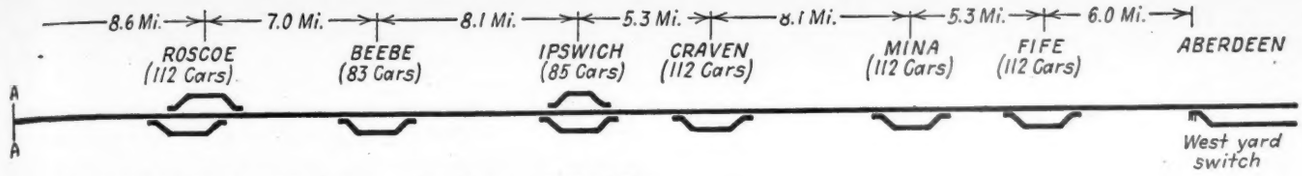
An "S" below the leave-siding dwarf indicates throw the switch to depart from the siding

Layout of Sidings

On this subdivision there are 12 stations with sidings intended for use regularly in the passing and meeting of trains. Confining consideration to the 95 mi. between the west yard switch at Aberdeen and the east yard switch at Mobridge, the 12 towns with sidings are spaced an average of 7.6 mi. Two sidings are located at Roscoe, which is a coal and water station. At Glenham, when making grade revisions on a new alinement, a section of the old line, about 1.5 mi. long and passing the station, was left in service to be used by local trains. Power switches are provided at each end of this segment, and, therefore, this track can be used also as a siding by other trains which can negotiate the grades. The east end of this Glenham track is only 2.5 mi. from the west end of Sitka, and the latter siding is used by trains which cannot negotiate the grades at Glenham. The sidings at Fife, Mina, Craven, Roscoe, Gretna, Bowdle and Selby will hold 112 to 115 cars; at Ipswitch, Beebe, Alamo and Java, 83 to 87 cars; at Sitka, 97 cars; and at Glenham, 155 cars.

"S" Means Throw the Switch

At each siding switch there are three signals located as shown in Fig. 2. Eastward high signal No. 2 has a searchlight unit as the top "arm" and an "S" unit as the lower arm. This "S" unit consists of a cast-iron housing, a reflector, a lamp and a clear ground glass roundel 10 in. in diameter, the lamp being normally extinguished. When controlled by the dispatcher, the lamp is lighted, causing a black letter "S" on white background to be displayed on the ground glass roundel. When the dispatcher sends out controls to establish aspects to direct an approaching train to enter the siding, the signal No. 2 displays red in the top arm over "S" in the lower arm, and at the same time the distant signal displays the Approach aspect, yellow. When



98 mi. of the new block system between Aberdeen and Mobridge

the train arrives and stops short of the switch, the letter "S" directs that the trainman is to throw the switch and the train is then to enter the siding, after which the trainman places the switch normal.

The leave-siding dwarf signal No. 3 has a searchlight head with an "S" unit mounted below. When a westbound train on the siding is to be directed to depart, the dispatcher sends out a control which lights the "S" under the red, and this authorizes the trainman to throw the switch, after which the "S" is extinguished and the searchlight dwarf displays a proceed aspect—green if two or more blocks are unoccupied, or yellow if a preceeding train is still occupying the second block. After the train is out on the main track, the rear brakeman returns the switch to the normal position. For a train movement with the switch normal, the dispatcher controls signal No. 1 for a westbound train or the top arm of signal No. 2 for an eastbound train.

Signals on House Tracks

At various towns some main-track switches lead to house tracks or cattle pens. At the clearance point on each of these turnouts there is a color-light type dwarf signal with three lamp units in a vertical row, as shown in one of the pictures. Also on each turnout, where the grade conditions require, there is a hand-throw Hayes derail to which is connected a circuit controller. If a local freight train gets in the clear on one of these house tracks, the derail must be restored to the derailing position in order for the main-track signals to be cleared.

When the local freight train is ready to depart from the house track, the conductor uses the telephone to inform the dispatcher. If the dispatcher is ready for the local freight to pull out, he informs the conductor accordingly and also sends out a control to the station where the switch is located. Then the conductor pushes a push-button which closes circuits that, in combination with the control from the dispatcher's office, cause the letter "S" to be displayed in the bottom unit of the dwarf signal, while red continues to be displayed in the top unit. The illuminated "S" authorizes the trainman to throw the derail to the non-derailing position, and to throw the switch. When this is done, the letter "S" and the red light are extinguished, and a yellow light appears in the second unit. This authorizes the engineman to move his train out onto the main track, after which the trainman places the switch and derail in their normal positions.

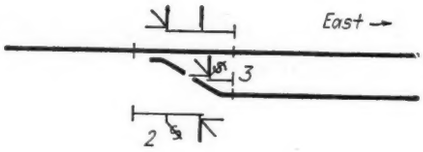


Fig. 2—Signals and "S" indicators at the end of a siding at which a hand-throw stand is in service

As shown in Fig. 3, the distance from the west switch at Ipswich to the east switch at Beebe is 7.4 mi. The eastward intermediate signal 288 is located 10,054 ft. from the station-entering signal 54R at the west end of Ipswich, and the westward intermediate signal 325 is 9,462 ft. from the westward station-entering signal 52L at the east end of Beebe. This leaves 3.74 mi. between the two intermediate signals. In addition to serving as distant signals, these intermediate signals also allow a second train to follow into the overall station-to-station block. For example, after the rear of a leading eastbound train has passed signal 288, the eastward high signal 52RA or the leave-siding dwarf 52RB can be controlled by the dispatcher to direct an eastbound train to follow.

As there are comparatively few passenger trains, there will not be many instances in which a closer spacing of following trains will be of any advantage, and, therefore, no second eastward intermediate signal opposite 325 was warranted, and similarly, no second westward intermediate signal was provided opposite 288. A point of interest is that this arrangement of only two intermediate signals, as shown in Fig. 3, can be used in a signal system such as this, because the head-on protection is provided by the station-leaving semi-automatic dispatcher-controlled signals, whereas with straight automatic block, opposing intermediates must be located twice braking distance to provide head-on protection. Therefore, the installation on the Milwaukee requires fewer signals than straight automatic block with a conventional arrangement of signals using an average of two-mile blocks. This saving in signals helped to offset the cost of the control machine and line code equipment to control the signals from the dispatcher's office.

Where the distance from the west switch of one siding to the east switch of the next was 4 to 5 mi., the two intermediates were placed opposite, as a double location, as between Craven and Ipswich, for example. In one instance, between Sitka and Glenham, the distance is 2.5 miles, and in this layout there are no intermediate signals, the westward leaving signal at Sitka, for example, serving as a distant signal for the station-entering signal at Glenham.

Features of Control Machine

The control machine is in the dispatcher's office at Aberdeen, at the east end of the new signaling. The illumin-

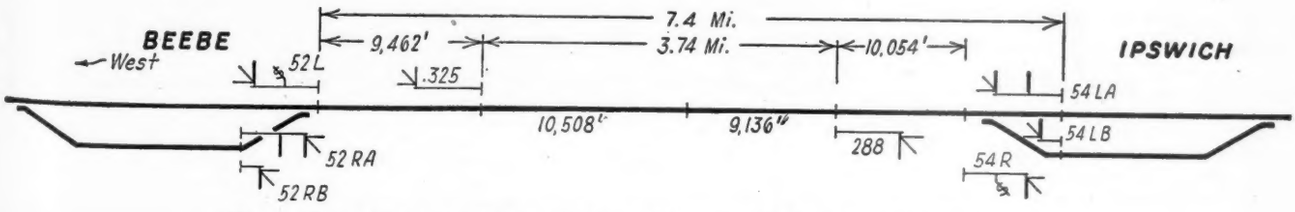


Fig. 3—The only intermediate signals are those required as distant signals

Derail and signal governing moves from house track to main line

ated track diagram at the top of the panel has lamps which are lighted to indicate automatically the locations of trains on all portions of main tracks. When a train enters a siding, the dispatcher flips a small toggle switch below the symbol for that siding, which causes a red lamp to be lighted in the corresponding portion of the diagram. This lamp is a reminder to the dispatcher in case the train is delayed for some time. When the train departs from that siding, the dispatcher places the toggle normal, which extinguishes the lamp.

As already explained, the siding switches are operated by conventional hand-throw stands. Nevertheless, in the top row on the control machine there is a "switch" lever corresponding with each passing track switch, these levers being used to establish selection for signal controls.

For "straight"-track through moves, the switch lever is left normal, the signal lever is positioned and the code button pushed to send out the code to control the signal. When establishing a control to include a take-siding indicator or a leave-siding indicator, the first action is to throw the corresponding switch lever to the reverse position, then throw the signal lever left or right as required, and push the code button.

Lamps above the switch levers repeat the position of the corresponding hand-throw switches, and lamps above the signal levers repeat the aspect displayed by the signals. The color-light dwarf signals which control movements from house tracks to the main track are controlled by special push-to-turn buttons, which are mounted in a row near the bottom of the panel. Such buttons are turned to the left if the train is to move to the west after entering the main track, or to the right if the move is to be eastbound. An automatic graphic train chart, located in the desk top of the control machine, has pens to record the passing of trains at each OS track circuit at the various switches.

This installation includes several modern features which assisted in adapting the signaling to the requirements of the traffic and, at the same time, aided in reducing the cost, compared with conventional automatic signaling. In this respect, the first item is the use of normally-deenergized coded track circuits. As one of these coded track circuits can be up to 10,200 ft. in length, three times as long as ordinary d.c. track circuits used elsewhere on the Milwaukee, the use of coded equipment reduces the number of track circuits. Different rates of code, 75 or 180 per minute, are used to control signals to either the Approach or the Clear aspect, thus obviating the need to install line wires on pole lines for line circuits. These coded track circuits are normally deenergized, being "turned on" when the dispatcher sends out a control to establish a line-up for a train in a station-to-station block. For this reason the track circuits and intermediate signals can be supplied from primary batteries, obviating the need to run an a.c. power distribution circuit throughout the territory.

Storage batteries used at the ends of the sidings are charged through rectifiers from the local commercial power supply. At sidings where no a.c. power is available, the batteries are charged by windmill generators. The C.T.C. codes between the dispatcher's office and the field stations are superimposed on the previously-existing line wires for the dispatcher's telephone circuit. This line circuit consists of two No. 9 bare hard-drawn copper wires, which carry not only the dispatcher's phone and C.T.C. codes but also telegraph carrier and voice carrier for a phone circuit between Chicago and Seattle. Thus in the station-to-station blocks, no changes or additions to the pole line were required, this being an important factor compared with a conventional single-track automatic block system requiring at least three line wires for line circuits, and two wires for a.c. power distribution, if available and justified.

This installation of signaling was planned and constructed by railroad forces under the jurisdiction of L. B. Porter, superintendent of telegraph and signals. The major items of equipment were furnished by the Union Switch & Signal Co.

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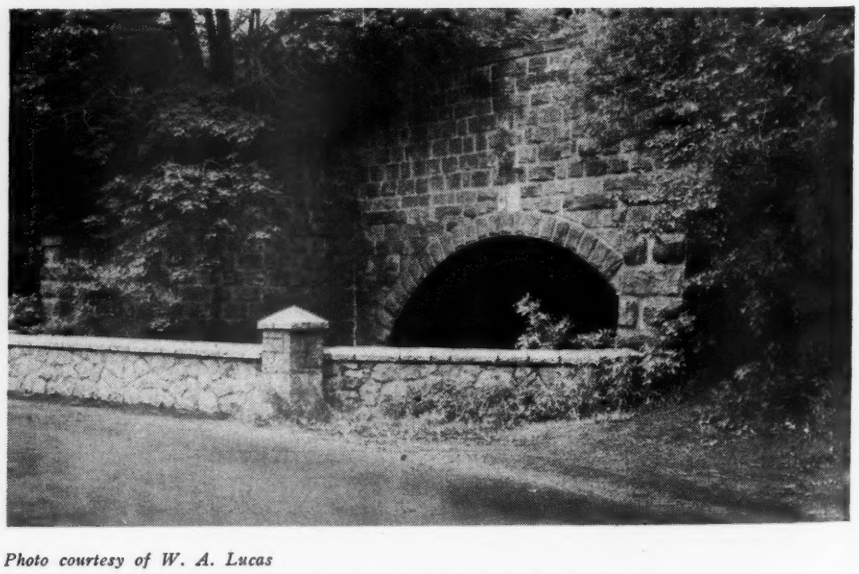


Photo courtesy of W. A. Lucas

Sandstone culvert over Hackensack river, N. J.

Erected in 1840 as part of the original line of the New York & Erie, the culvert, now part of the Erie's Piermont branch, was used by troops billeted at Camp Shanks in World War II. The white tablet directly above the arch showing the date and name of the first president of the Erie, Eleazer Lord, can still be read.

What Type Communication Towers?

(*Continued from page 938*)

tically fireproof, in that the only inflammable materials in the entire structure are the doors, window frames, furniture and floor covering.

Steel Frame Construction

Another type of communication tower construction has been employed recently by the Kentucky & Indiana Terminal in its Youngtown yards at Louisville, Ky.* This is a four-legged, square, steel-frame tower 60 ft. high, open for 35 ft. above the ground, but with two stories and a control room above that point. The two lower stories are enclosed by 1-in. pine sheathing covered with a layer of Sisalkraft paper and asbestos shingles on the outside of 2-in. by 6-in. studs, and have asbestos sheetrock wallboard inside wall facings. The space between the studs is filled with rockwool insulation. The lower of these two stories contains the electrical equipment of the communications system, while the upper story contains an air-conditioning unit and washroom and sanitary facilities.

The top-floor control room, which houses the communications-control desk, the pneumatic message-tube terminal, and other office appurtenances, is 8 ft. high, and is enclosed on all sides by vertical Thermopane windows. These windows are shielded from the direct rays of the sun by a wood-frame canopy extending at an angle of 45 deg. from the top of the flat roof to a point about level with the top of the window and about 2 ft. 7 in. out from the walls. A creosoted-pine balcony, protected by a pipe railing, extends around the entire tower at the third-floor level to facilitate the washing of the large windows. A 4-in. pneumatic message tube is attached to the outside of one corner, bending out around the balcony and down through the roof to its terminal in the control room.

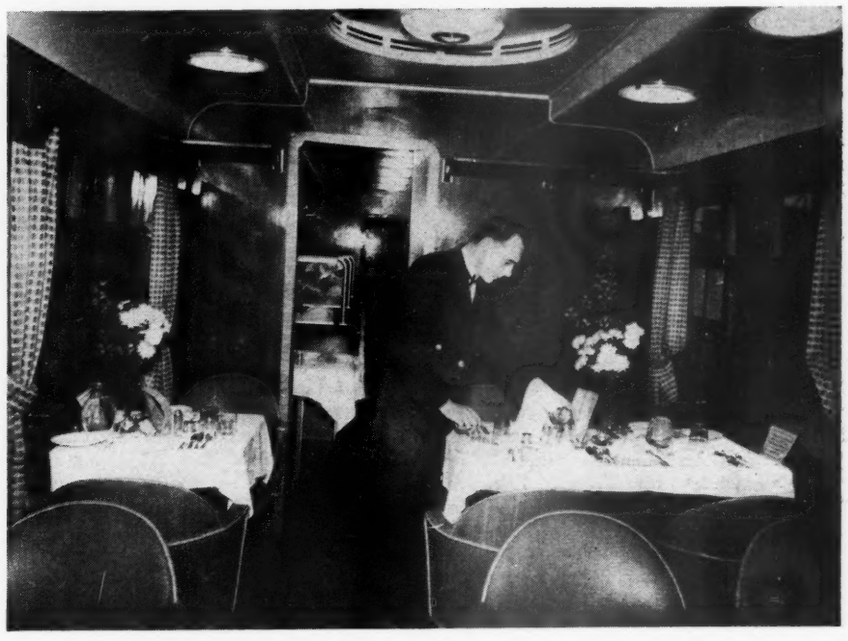
The roof is constructed of built-up roofing on wood sheathing nailed to 8-in. joists, with rockwool insulation between the joists. Acoustic material covers the ceiling and walls above the windows, and linoleum is laid over the oak flooring, which is strengthened by a pine subfloor.

While this type of structure is not fireproof, it is considered resistant to fire from the outside, and so nearly free from sources of fire on the inside that the justification for further fireproofing may well be questioned. This method of reasoning is gaining favor among railway officers, one of whom has said that realization that the cost of most structures is increased almost 25 per cent in obtaining the last 4 per cent of fireproofing has prompted him to recommend the lower-cost, "reasonably" fire-resistant type of building for his needs.

Generally, this type of structure is not as permanent as a fully fireproof structure, and if new scientific progress should force it into obsolescence, as C. T. C. has affected some interlocking towers, it can be dismantled and relocated where some other need exists.

Although both of the tower examples cited are being used in connection with yard communication facilities, features of their design seem equally adapted for use at interlockings, or any other locations where visibility over a wide area is a prime requisite, and where improved working conditions are desirable or essential. Some of their features have already been used in the construction of single-story buildings housing centralized traffic control machines, and many of them are well adapted to car retarder control towers, some of which in the future, will, no doubt, also house communication control facilities. What this new type of construction has done toward up-lifting the yardmaster and increasing his effectiveness, it may well do for all other supervisory employees working under similar conditions.

* * *



In its program for brightening up travel facilities, the Great Western (Britain) employs modern lighting and color in a new dining car

A. A. R. Study Group on Railroad Finance

(*Continued from page 939*)

The second suggested approach is a comparison with the rental paid by the government to the railroads during the World War I period of federal control. The report said that rental "approximated $900 million per year," and it calculated that, to be on a comparable basis, current net railway operating income would have to be averaging approximately $1,458 million—a return of 6.56 per cent on the depreciated property investment of the Class I roads as of the end of 1945.

The future financial requirements of the railroads, the committee found, will comprise two principal categories, as follows: (1) Funds for plant improvement; and (2) liquidation or refinancing of maturing obligations. Outlays for plant improvements, it was further found, will depend largely on earnings; while the carriers will be required during the five years from 1947 through 1951 to pay off or refinance maturing debt in the aggregate amount of $1,151 million, of which $493 million are equipment obligations. On the matter of debt reduction, the report predicted that the railroads "will continue alert to follow all policies that offer a means to further reduction of funded debt, or annual interest charges, or both, though such reductions may not continue, in some instances, at the same rate as in the past."

* A general description of the communication system installed in these yards appeared in the *Railway Age* of March 1.

GENERAL NEWS

3 Months' Net Income Totaled $87,200,000

Net railway operating income for the same period was $174,095,470

Class I railroads in the first three months of this year had an estimated net income, after interest and rentals, of $87,200,000, as compared with $19,000,000 in the corresponding period of 1946, according to the Bureau of Railway Economics of the Association of American Railroads. The three-months net railway operating income, before interest and rentals, was $174,095,470, compared with $110,718,526 in the same period last year.

March Results—Estimated results for March showed a net income of $43,600,000, compared with a deficit of $33,300,000 in March, 1946, while the net railway operating income for that month was $72,782,112, compared with March, 1946's deficit of $5,702,877. In the 12 months ended with March, the rate of return averaged 3.03 per cent, compared with 3.14 per cent for the 12 months ended with March, 1946.

The A.A.R. statement said that the operating expenses for March, 1946, are "overstated to the extent of the inclusion of about $97,000,000 charged in that month as retroactive wage payments applicable to the months of January and February, 1946." For that reason, "the net earnings shown for March, 1946, are somewhat understated, thus affecting the comparison between March, 1946, and March, 1947."

Gross in the three months totaled $2,039,308,947 compared with $1,866,454,829 in the same period of 1946, or an increase of 9.3 per cent. Operating expenses amounted to $1,597,733,863 compared with $1,567,879,401, or an increase of 1.9 per cent.

Thirty-eight Class I roads failed to earn interest and rentals in the three months, of which 17 were in the Eastern district, 6 in the Southern region and 15 in the Western district.

Class I roads in the Eastern district in the three months had an estimated net income, of $23,400,000 compared with a deficit of $7,800,000 in the same period of 1946. For March, their estimated net income was $16,000,000 compared with a deficit of $12,200,000 in March 1946.

The same roads in the three months had a net railway operating income, of $64,015,887 compared with $31,097,222 in the same period of 1946. Their net railway operating income in March amounted to $30,188,136 compared with $655,649 in March, 1946.

Gross in the Eastern district in the three months totaled $937,119,618, an increase of 13.5 per cent compared with the same period of 1946, while operating expenses totaled $757,353,356 or an increase of 5.2 per cent.

In the South—Class I roads in the Southern region in the three months had an estimated net income of $18,800,000 compared with a net income of $6,200,000 in the same period of 1946. For March, they had an estimated net income of $7,600,000 compared with a deficit of $6,600,000 in March, 1946.

Those same roads in the three months had a net railway operating income of $30,872,705 compared with $22,762,697 in the same period of 1946. Their net railway operating income in March amounted to $11,804,233 compared with a deficit of $840,015 in March, 1946.

Gross in the Southern region in the three months totaled $297,400,583, an increase of 8.1 per cent compared with the same period in 1946, while operating expenses totaled $228,670,846, an increase of 2.8 per cent.

Class I roads in the Western district in the first months had an estimated net income of $45,000,000 compared with $20,600,000 in the same period of 1946. For March, they had an estimated net income of $20,000,000 compared with a deficit of $14,500,000 in March, 1946.

Those same roads in the three months had a net railway operating income of $79,206,878 compared with $56,858,607 in

(*Continued on page 951*)

CLASS I RAILROADS—UNITED STATES

	1947	1946
Month of March		
Total operating revenues	$ 717,826,034	$ 646,229,071
Total operating expenses	549,367,970	614,558,053
Operating ratio—per cent	76.53	95.10
Taxes	82,448,420	24,885,571
Net railway operating income (Earnings before charges)	72,782,112	Def. 5,702,877
Net income, after charges (estimated)	43,600,000	Def. 33,300,000
Three Months Ended March 31, 1947		
Total operating revenues	$2,039,308,947	$1,866,454,829
Total operating expenses	1,597,733,863	1,567,879,401
Operating ratio—per cent	78.35	84.00
Taxes	228,378,063	153,526,874
Net railway operating income (Earnings before charges)	174,095,470	110,718,526
Net income, after charges (estimated)	87,200,000	19,000,000

Berge Assured F.R.P. Will Fight "Monopoly"

Federation "appreciates" his "valuable contributions to welfare" of railroads

Wendell Berge, whose resignation as assistant atorney general in charge of the Department of Justice's Anti-Trust Division became effective May 1, left that position with assurances that the Federation for Railway Progress appreciates his "valuable contributions to the welfare of the railroads," and will continue, "before the court of public opinion," the prosecutions which Mr. Berge has "so successfully begun before our federal courts." The assurances came from William C. MacMillen, Jr., president of the federation, who spoke at a testimonial dinner for Mr. Berge in Washington, D. C., on May 3.

In giving them, Mr. MacMillen told Mr. Berge that he knew "your fearless and vigorous work in the Department of Justice has cost you a great many friends in the railroad industry." As for the federation, however, its president said that its philosophy on the "monopoly question" was "best stated" by Mr. Berge in his opening remarks in the so-called Lincoln anti-trust suit against western railroads and the Association of American Railroads.

The approved Berge statement was quoted by Mr. MacMillen as follows: "'The pervasive evils of monopolistic practices in the transportation industry affect not only transportation, but all American industry. It is necessary, therefore, that the transportation industry be freed of monopolistic restraints in order that all American industry be free."

An Appraisal of the A. A. R.—Meanwhile, the federation president had called his organization, which is sponsored by Robert R. Young, chairman of the Chesapeake & Ohio and Alleghany Corporation, a "unique association in that its membership is composed of representatives of every segment of the railroad industry—investors, shippers, suppliers, labor, railroads themselves, and members of the general public." He then proceeded to an attack on the A.A.R., taking for his text what he said was a recent statement by that association to the effect that its work "is of benefit to all who are interested in railroads."

Heretofore, Mr. MacMillen said, the A. A. R. "has not pretended to represent any one except railroad management." For purposes of his argument, however, he assumed that the A.A.R. had been acting for all groups interested in the railroads; and

he went on to give his view of how such groups have fared in the past 13 years since the A.A.R. was created.

Considering first the security holders, Mr. MacMillen told of Mr. Young's "successful fight" to introduce competitive bidding in the sale of railroad securities. The A.A.R. "assistance" in that fight, as he reported it, "consisted of coming down here to Washington and publicly opposing the introduction of that practice."

On the matter of coast-to-coast passenger service, the federation president said that "a senior officer of one of the leading members" of the A.A.R. "testified under oath that there would not be enough passenger traffic to justify through service." Since that time, Mr. MacMillen went on, the same railroad "has been making for its stockholders a net profit of $50,000 annually" from the through coast-to-coast cars. But he found "the most conclusive proof of how well the A.A.R. has represented security holders" in the "twin facts" that "well over a billion dollars of their securities have been wiped out in railroad bankruptcies and the average annual return on railroad investment has been a little over 2 per cent."

What Caused the Car Shortage?—The present box car shortage was cited by Mr. MacMillen as evidence of the A.A.R.'s failure to benefit shippers. "Don't think," he said, "that the box car shortage was caused entirely by the war, because the A.A.R.'s own figures show that the railroads of this country owned some 20 per cent fewer freight cars at the end of 1946 than they did at the end of 1916." He went on to say that the A.A.R. protested that new cars would not be required when "in 1939 it was revealed to a federal agency which was responsible for the husbanding of our natural resources for the impending war that the railroads would need several thousand new freight cars to handle the increased traffic."

Further evidence "of the hard work the association has performed on behalf of shippers" was found by Mr. MacMillen in the government's presentation in the Lincoln case, "which points out that the defendants . . . argreed to hold carloads of perishable freight on sidings until such time as the slowest freight train could catch up with the fastest one." As to passenger service, the federation president told his audience not to be "fooled" by "glossy advertisements" of the A.A.R. and its member roads.

"The facts," he continued, "are these: All the passenger cars delivered in 1946, plus those on order at the end of 1946, would replace less than a third of cars over 30 years old, which are now in use. Of course, we hear the story again that the war caused this condition. But since 65 per cent of all the passenger cars now in use are more than 20 years old, it is difficult to understand how a war, which lasted less than four years, aged these passenger cars so badly."

Nationalization a Danger—Summing up on this "very brief recitation of facts," Mr. MacMillen suggested that it was "fair to conclude that if the A.A.R. has really been acting on behalf of the security holders, shippers, and passengers, they have been doing a damn poor job." He added that the "more important conclusion" is that "unless something is done now to improve the status of the railroad industry by eliminating its monopolistic practices, the next time we have a depression, the railroads will come face to face with government ownership—and when that happens to America's largest industry, our free enterprise system will indeed be on the run."

That issue, Mr. MacMillen said in closing, is being "squarely presented" today, for "at the same time Mr. Berge is prosecuting the Western Case, the A.A.R. and the I.C.C. are atempting to have enacted the Bulwinkle bill which would exempt the railroads from anti-trust laws and which would legalize the actions on which the Western Agreement is based." Meanwhile, the federation's "stated and specific purpose" is "to abolish monopolistic practices and bring about the return of free enterprise to the railroad industry." Thus it is, as Mr. MacMillen put it, "squarely opposed to the Bulwinkle bill."

Scandrett to Retire May 13 as Milwaukee President

H. A. Scandrett, president of the Chicago, Milwaukee, St. Paul & Pacific, has announced his intention to retire, effective May 13, the date of the road's annual meeting. His successor will be elected at that time, it was stated. Mr. Scandrett has been president of the Milwaukee since January, 1928, having resigned as a vice-president of the Union Pacific to accept the post.

11 Per Cent Fares Hike Asked by California Railroads

Railroads operating in California have applied to the Public Utilities Commission for an increase of approximately 11 per cent in passenger rates for journeys entirely within the state, to become effective on June 1. The companies which have asked for the increase are the Atchison, Topeka & Santa Fe, Southern Pacific, Northwestern Pacific, Western Pacific, Union Pacific, Pacific Electric and the San Diego & Arizona Eastern.

B. & M. Officer Cited for Public Relations Work

The Boston & Maine was one of four New England business institutions honored by the Advertising Club of Boston (Mass.) on April 29 when, for the first time in its history, it issued citations for outstanding achievements in public relations. At a luncheon attended by 350 persons at the Hotel Statler in Boston, where Robert S. Henry, assistant to the president of the Association of American Railroads, was the speaker, the citations were awarded and engraved certificates issued to the recipients.

Herbert L. Baldwin, the B&M's publicity manager, was given the citation which read: ". . . for outstanding achievement in creating favorable public opinion through wise policies and skillful methods of disseminating information; for promoting good will and human understanding, and for conduct deserving of high public praise."

Whitney States Some Principles

At this time organized labor constitutes "the only effective challenge to the unchecked control of monopolies over our economy," A. F. Whitney, president of the Brotherhood of Railroad Trainmen, declared in an address May 3 at the Boston (Mass.) City Club. "Labor is the most powerful group working to protect civil liberties," he said. "It keeps pressing persistently and insistently for an end to the housing shortage, for lower prices, for the extension of health insurance, for adequate provision for old age, for a fair minimum wage."

After remarking that other groups—consumers, cooperative organizations, women's clubs, the churches—are working to "challenge the unprecedented concentration of economic power in a few hands which exists today," the speaker asserted that "labor must lead the fight. Prosperity and a free society will not long exist in the United States if organized labor does not become their defender and promoter. And to discharge that responsibility the labor movement must first realize that the welfare of one group is the concern of all. The belief that any one group can isolate itself from the effects of bad times and the misery which may descend on the rest has no place in a realistic appraisal of the present situation. Our economy is too tightly bound together for that."

Without reference to some phases of the recent history of organized railroad labor, apparently, Mr. Whitney went on to say: "We must not be divided. Regardless of the causes of organic divisions, we can and must work together in matters of common interest. Our sole right to exist at all springs from the need of working people to unite to improve wages and working conditions and to build a better world in which to live. The extent to which we achieve this goal will depend on the extent to which we work together."

Labor unions, said the speaker, "have been out-generalled . . . by ruthless slickers who have spread false propaganda so successfully that millions of people believe labor is responsible for all the sad things happening in this country. . . . The N.A.M., Wall Street, the U. S. Chamber of Commerce, the Association of American Railroads and their yelping satellites are conducting full-scale warfare against us. From these tight fortresses of monopoly and greed, hatred of labor shoots out like poisonous gas, spreading lies and slander across the country."

Nevertheless, said Mr. Whitney, labor unions have a wider opportunity and a heavier responsibility than ever before—"the safeguarding and extension of democracy with all its rights, privileges and opportunities is the task of the American labor movement at the present time."

To achieve these purposes, the speaker suggested the following program for organized labor: It must "speak its mind"

on the country's domestic and foreign policies; it must become "increasingly active in politics"; it must assume leadership in "carrying to the people the truth about the causes of rising prices, depressions, housing shortages and the host of ills "afflicting the country; it must "forge firm links of understanding and sympathy with non-labor elements in our population . . . in building a prosperous, peaceful and free society."

A. A. R. Accounting Division to Meet at Miami Beach

L. R. Powell, Jr., president of the Seaboard Air Line, will be among speakers at the fifty-third annual meeting of the Accounting Division of the Association of American Railroads, which will be held May 20-23 at Miami Beach, Fla., with headquarters at the Roney Plaza Hotel. The tentative program for the meeting was issued this week by Division Secretary E. R. Ford.

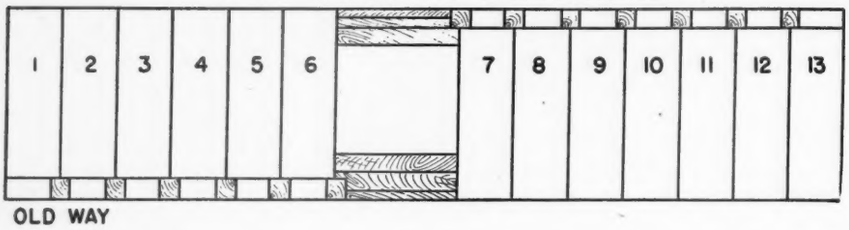
The division's chairman, R. Parke Jones, vice-president of the Seaboard, will preside at the meeting, delivering his "chairman's address" at the opening general session on May 21, when Mr. Powell will also speak. The previous day, May 20, will be devoted to the usual "open house" meetings of the division's various standing committees.

Other addresses listed on the tentative program are: "Progress of Locomotive and Train Performance Statistics," by J. P. McDonald, assistant general auditor, Atchison, Topeka & Santa Fe; "Progress in Interline Freight Accounting Within and Outside the Scope of the A. A. R. Mandatory and Recommendatory Rules," by H. H. Antrim, auditor revenues, Delaware, Lackawanna & Western; "Liaison of Passenger Traffic and Accounting Functions," by W. S. Painter, auditor passenger traffic, Pennsylvania; "Value of the Disbursement Accounting Office to the Operating Department in the Control of Expenses," by J. J. O'Neill, assistant comptroller, New York, New Haven & Hartford; "The Importance of the Profit Motive in Each Class of Railroad Service," by G. T. Carmichael, vice-president, New Haven.

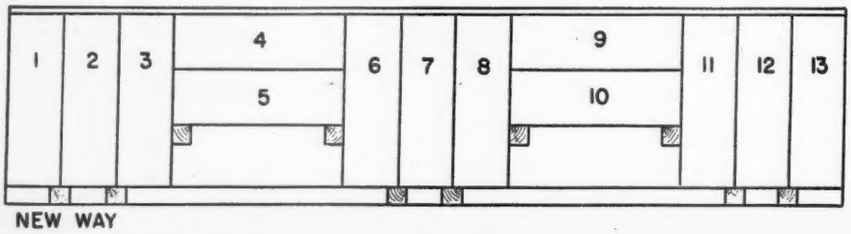
Also scheduled is an informal address by E. H. Bunnell, vice-president of the A. A. R. in charge of its Finance, Accounting, Taxation and Valuation Department. Other business will include the presentation of reports of the division's standing committees and the election of officers. The usual preliminaries at May 21's opening session will include an address of welcome by Mayor Herbert A. Frink of Miami Beach.

* * *

For devising a new method of loading home freezers in freight cars the Carrier Corporation's suggestion department has awarded to Virginio Libera, a crane operator, the sum of $2,500. Mr. Libera (who appears above, left, being congratulated by A. P. Shanklin and Herbert O'Connell of Carrier) found a way to load the big freezers which is said not only to save two man-hours per car, but also large quantities of lumber for shoring, to reduce damage in shipment, and to permit the same number of units to be carried in each car. Diagrams below show the old method of packing and Mr. Libera's method



OLD WAY



NEW WAY

New Seaboard Air Line Train

The Seaboard Air Line, in conjunction with the Pennsylvania and the Richmond, Fredericksburg & Potomac, will establish on May 18 a new train, the "Camellia," to operate between New York and south Florida cities and to serve important intermediate points in the Southeast, according to C. E. Bell, passenger traffic manager. This train will leave New York at 10:30 a.m. and Washington, D. C., at 3:00 p.m. and arrive at Jacksonville, Fla., at 8:10 a.m., Tampa 1:40 p.m. and Miami 5:15 p.m. Northward, it will leave Miami at 9:25 a.m., Tampa at 1:10 p.m., and Jacksonville at 6:55 p.m. and arrive at Washington at 11:15 a.m., and New York at 3:45 p.m.

The "Camellia" will be powered with Diesel-electric locomotives and will carry conventional type sleeping cars equipped with drawing rooms, compartments and sections. The coaches will be stainless steel, with reclining seats, large men's and women's lounge rooms and other modern appointments.

More U. P. Tourist Cars Out

In keeping with the announced intention of the Union Pacific to eliminate tourist sleepers on its lines, G. F. Ashby, president, has announced that such cars now in operation from Chicago, Minneapolis, Minn., and Kansas City, Mo., to Los Angeles, Cal., will be discontinued on May 14. The U. P. on April 1 discontinued tourist sleepers on all regular main line trains operating between Chicago, Denver, Colo., Salt Lake City, Utah, Portland, Ore., and Spokane, Wash. (see *Railway Age* of April 5, page 711).

R. B. White Says Regulations Are Stifling Railroads

The arteries of rail transportation are laboring under conditions devitalizing and sapping their strength in a manner which should be a matter of great concern to everyone, R. B. White, president of the Baltimore & Ohio, said in Wheeling, W. Va., on April 30. Speaking at the annual dinner of the Ohio Valley Board of Trade, Mr. White added that he referred particularly to the extent to which railroad income and outgo are now out of balance.

"Unlike the income and outgo of unregulated industries, both the revenues and expenses of the railroad industry are primarily in the control and determination of the government," Mr. White continued. "As a result of the processes of these controls, the costs of railroad operation have outstripped income. Costs have spiraled upward in the last few years to such an extent that they cannot be absorbed out of the revenue now obtainable, even though the volume of traffic now moving is the

greatest in peacetime history. It is one thing to be short of income because business is slack and prices are depressed, but it is much more serious when this great and indispensable industry cannot obtain a living wage out of the highest peacetime volume of business ever known."

It would not be possible to say these things about the railroad industry if it were unregulated and free to manage its own affairs as are other industries, he said. In that case, the railroads would, like other industries, shape and adjust their prices to changing costs and competition as their own judgment indicated and stand or fall in consequence.

"So long as transportation by rail continues to be the kind of transportation upon which this country must primarily depend," he went on, "conditions that unnecessarily contribute to the weakening of that transportation become doubly important. . . . Railroad transportation does not have, and does not seek, subsidies nor does it want any monopoly in the carrying field. The public should have every kind of transportation its patronage will support. Other agencies of transportation have been born and developed to the point where, although in the aggregate they handle a small portion of the country's total traffic, their competition is an effective drain and we must reckon with it.

"Congress has declared, in a statement of national policy, that all these competing carriers should be fairly and impartially regulated; that the inherent advantages of each should be recognized and preserved, and that between them there should be no unfair or destructive practices. This is a congressional statement of the rule of fair play, and as a policy and principle it is an admirable one. The unfortunate part about it, however, is that in practice the competition between competing carriers . . . is not on the fair basis of the natural merits and inherent advantages of each, but is, in fact, an unfair and destructive competition because of the subsidy advantage received, in one form or another, by all competing carriers, except only the railroads and the pipe lines. Only the latter stand upon their own legs and pay their own way. The air lines, the water lines and the highway carriers are able to maintain rate levels lower than sufficient to cover the real cost of the service they render because part of the airways, the waterways and the highways which they use is furnished to them out of taxpayers' money, either free or at less than their cost."

The resulting detriment to the public is twofold, Mr. White said. First, the public is called upon to pay out of the general funds raised by taxes all the cost of the transportation that is not covered by the artificially low rates. This means that part of the cost of the services of these carriers is paid by the taxpayers, and the railroads themselves are one of the nation's largest taxpayers. The second detriment mentioned by Mr. White is found in the adverse effect the artificially low air line, highway and water line rates have upon the rates which the railroads are obliged to charge their customers.

There is now current a widespread public misunderstanding concerning what is really earned on the money invested in the plant and upkeep of a railroad, he concluded. The fact is that what is actually earned is not only so much less than the public thinks is earned, but it is also very much less than the public thinks it would be fair for the railroads to earn. The weakening effect upon the industry of the meager amount that is actually being earned makes it important that the railroads tell their story so the facts may be clearly understood by the public. The Supreme Court has said again and again that it is fair and reasonable for public utilities to earn a return of at least 6 per cent on the money invested in the property devoted to the service rendered by the utility. As long as the railroad industry continues to occupy a key position in the country's economy, Mr. White said, it is to the interest of everyone that it be allowed sufficient financial nourishment to maintain itself. To accomplish this publicly desirable result, earnings not less than 6 per cent are, and have been shown by experience to be, the measure that is necessary. A return of this amount would be substantially less than that now being earned by other businesses, yet it would be about twice what the railroad industry is now allowed to earn.

Government Seizure Bill Passes Commons

Having been passed by the House of Commons by a substantial majority this week, the British Labor government's bill to nationalize that country's land transportation—including the railroads—is now before the House of Lords, where it is reported the government will endeavor to get final action during the summer.

As the peers traditionally are more conservative in their views than the lower house, substantial opposition to the bill is expected, and many amendments are looked for. Reports indicate, however, that Labor party spokesmen are warning the House of Lords that it will be to its advantage to pass the nationalization bill, particularly since British Parliamentary procedure in effect leaves its ultimate fate to the lower house in any case. Nationalization of the railroads will be effected January 1, 1948, under the terms of the bill, if it is enacted into law this summer.

N. & W. Completes Test Switcher

The Norfolk & Western has announced the completion at its Roanoke, Va., shops of an experimental steam switching locomotive which was developed to determine the possibilities of modernizing switchers already in service. After preliminary tests at the Shaffers Crossing locomotive terminal in Roanoke, the engine will be placed in actual service at the passenger station and other places on Roanoke terminal and probably at other points on the road.

To make the engine available for around-the-clock service, the tender's capacity was increased and mechanical lubrication was applied, making unnecessary any attention to the machinery or the taking on of fuel for continuous service of 24 hours, the announcement said. Water level controls and stoker controls, with which the engine can be left unattended for some time, were applied. In order to secure fast steaming, more complete combustion and an appreciable reduction in the emission of smoke, thereby obtaining greater boiler efficiency, the locomotive was given increased heating surface and equipped with a turbine-driven fan for induced draft, the announcement added. The fan, stoker, ashpan dampers and the standby water feed pump are all tied in together and governed by automatic control.

3 Months' Net Income Totaled $87,200,000

(*Continued from page 948*)

the same period of 1946. Their net railway operating income in March amounted to $30,789,743 compared with a deficit of $5,518,511 in March, 1946.

Gross in the Western district in the three months totaled $804,788,746 an increase 5.1 per cent compared with the same period of 1946, while operating expenses totaled $611,709,661, a decrease of 2.2 per cent.

International Railway Congress

The 1947 plenary session of the International Railway Congress Association will be held June 23 to 28, inclusive, in Lucerne, Switzerland. The last previous session was in Paris in 1937. Topics scheduled for discussion this year include crossties; reduction in the weight of rolling stock; frequency and economy of passenger service under different conditions; and company-built housing for employees and officers.

F. R. P. Department to Handle Passengers' Comments

The Federation for Railway Progress has established in its Cleveland, Ohio, headquarters a passenger relations department "through which railroad travelers can obtain action on their comments" about railroad service, it has been announced by William C. MacMillen, Jr., president.

Mr. MacMillen said the new department will pass on to railroads on behalf of federation members their complaints or compliments concerning railroad service. The federation also will receive and catalog complaints and compliments from nonmembers but will not intercede with railroads on their behalf. It is hoped that in the near future comments regarding freight service can be included in the department's operations, he explained.

Members of the federation who have been the recipients of courteous attention from a railroad employee need only write the employee's name or other identifying information and provide a short factual description of the incident, Mr. MacMillen added. This information will be relayed to the railroad concerned. In the case of criticism, the federation will ask the railroad to take suitable action and to notify the passenger

and the federation of the results. A plaque, to be known as the F.R.P. Courtesy Award, will be presented to the railroad which has performed the outstanding service to the public during each year. The first will be given early next year for progress demonstrated during 1947, Mr. MacMillen said.

Union-Ousted Foes of Crosser Act to Form New Group

Plans for the organization of a "Suspension Lodge" to be composed of "rank-and-file" railroad employees suspended from their unions because of activities aimed at the repeal of the Crosser amendments and of others in sympathy with the movement, has been announced at Chicago by Thomas Stack, chairman of the Railroad Employees Pension Protective Committee of the Chicago area. Mr. Stack's suspension from Lodge 964 of the Brotherhood of Railway Clerks for his leadership against the amendments was discussed at length in a feature article in the *Railway Age* of April 19, page 795.

Mr. Stack said that he had written William Green, president of the American Federation of Labor, asking that the new group be allowed to affiliate itself with the A. F. of L. He reported that six other members of the protective committee have been suspended from the clerk's union by its president, George M. Harrison, because of their activities.

Chamber of Commerce Adopts Resolutions on Transport

Discontinuance of barge lines operated by the government-owned Inland Waterways Corporation is called for in a resolution adopted by the Chamber of Commerce of the United States at its recent annual meeting which also brought forth pronouncements on carrier agreements, transport conservation, highways, and airports. The meeting, held in Washington, D. C., from April 28 to May 1, included a luncheon session devoted to transport discussions as reported in the *Railway Age* of May 3, page 901.

The resolution on the Federal Barge Lines stated that their continued operation "where their purpose as a demonstration has been accomplished conflicts with sound policies repeatedly enunciated" by the chamber. "It represents," it added, "unfair and uneconomic competition, conducted at great expense to the public, with privately operated barge lines, and other competing forms of transportation. Therefore, the operation of government-owned barge lines should be discontinued as soon as practicable. In the meantime, no funds should be appropriated for expansion, modernization or recapitalization of the Inland Waterways Corporation."

The resolution with respect to carrier agreements said that "the welfare of transportation companies and of the shipping and traveling public calls for early removal of the present uncertainty regarding the legality of long-established conference procedures respecting rates and services." It went on to urge "prompt action" on pending legislation [the Reed-Bulwinkle bill], "which, subject to safeguards specified therein and such others as may be imposed by the Interstate Commerce Commission, would relieve from the operation of the anti-trust laws conference agreements approved by that body."

The pronouncement on transport conservation first called for a "primary effort" to expedite the manufacture of additional "freight hauling facilities" and the rehabilitation of those now in use. "Meanwhile," it added, "there is imperative need for active and continued cooperation of the regulatory authorities, carriers and users of transportation to get the maximum possible service from the inadequate available supply of facilities. Shippers and consignees should load and unload cars promptly and fully, with arrangements where feasible for six-day loading and unloading operations. Carriers should make every effort to speed up their service."

One part of the resolution on highways asserted that assessments for grade-crossing-elimination works and for subsequent maintenance and taxes on them should give "adequate recognition to the growth of highway use and to the relatively small benefits derived therefrom by the railroads."

Meanwhile, the resolution had called for "a continuous postwar program for the elimination of railroad-highway grade crossings which are dangerous or which delay a substantial volume of traffic."

The resolution's general pronouncement with respect to highway financing was that the cost of building and maintaining highways should be paid "by the interests they serve in proportion to benefits." "Highway users," it went on, "should pay the major part of the costs of highways of general use, including main thoroughfares in urban areas, in addition to paying their fair share of the general costs of government. Local roads and streets should be financed from general revenues or property assessments, augmented by a share of user revenues proportional to use."

As to airport policy, the chamber found that "the national interest in the provision of an adequate nationwide airport system justifies reasonable federal aid for this purpose." At the same time, it called for "reasonable user charges" at all publicly-owned airports, adding that such airports "should as soon as practicable be put on a self-sustaining basis."

Another resolution dealing with social security, included a recommendation to the effect that the general system be extended to railroad employees, and that the separate system maintained under the Railroad Retirement Act be abolished after a transitional period.

C. of N. J. Discouraging Short-Haul Commuters

The Central of New Jersey is trying to discourage short-haul commuter traffic to northern New Jersey points near New York, William Wyer, chief executive officer of the road, said in Brooklyn, N. Y., on May 5. Testifying before Burton Fuller, Interstate Commerce Commission examiner, at a hearing on the C. of N. J.'s application for authority to increase commutation fares by approximately 40 per cent for short distances, with gradually reduced percentages for longer distances, Mr. Wyer said his company's objective was to encourage commuters to settle in communities farther from New York and thereby raise the per capita revenue. The road, he added, would prefer to have short-haul passengers to such nearby places as Jersey City, N. J., use buses.

Katy Will Reserve Hotel Rooms

Agents of the Missouri-Kansas-Texas in the larger cities where the road maintains offices will now make hotel reservations for its patrons, J. F. Hennessey, Jr., vice-president—traffic, has announced. He said the road must know the name of the hotel desired, arrival time at the city where the reservation is to be made, length of stay, whether a single or double room is wanted and the name of the person desiring the reservation. At the same time, Mr. Hennessey announced that the Katy would resume the free distribution of apples to lounge car patrons of the "Texas Special," a service discontinued during the war.

Railroads Main Bulwark Against Socialism, Says D. L. Head

An adequate return upon railroad investments is needed to strengthen the railroad industry as the main bulwark of American business against state socialism, William White, president of the Delaware, Lackawanna & Western, said on May 8 in an address before the Buffalo, N. Y., Rotary Club.

Mr. White said that other regulated public utilities were permitted to earn between 6 and 8 per cent on property devoted to public service and that the Supreme Court, as late as 1945, had upheld such a rate of return, "while in the best war year railroads earned only 5½ per cent, with an average return of 3.24 per cent during the last ten years. In 1946, the railroads handled the largest volume of traffic in peacetime history, but they earned only 2.74 per cent. Even with the increase in freight rates granted recently, the Interstate Commerce Commission admits they can earn only an average of a little more than 3 per cent."

A statement prepared by the National City Bank of New York, which analyzes the net income of 2,958 leading corporations and computes the rate of return on net worth, was presented by Mr. White to his audience. This statement showed that 1,511 manufacturing industries in 1946 earned at a rate of 12.1 per cent and that the public utilities earned 8.2 per cent while the Class I railroads earned only 2.3 per cent. The low rate of return in the railroad industry was not a phenomenon confined to 1946, he explained, but had been going on for 30 years. He emphasized that if the railroads cannot be operated successfully as a free enterprise there is no recourse other than government ownership and operation, and that, he continued, simply would mean providing the cash for improvements and operating deficits out of the general tax revenues of the country.

Referring to the freight car shortage, Mr. White said that while there were some 95,000 freight cars on order, lack of ma-

terials has made it possible for car builders, and railroads in their own shops, to build only about 3,000 cars a month, but that a freer flow of materials was expected so that output could be increased to 10,000 cars a month beginning in July. It was expected, he added, that orders shortly would be placed for an additional 35,000 freight cars. The D. L. & W., he concluded, has iinvested several million dollars in new Diesel-electric locomotives and passenger cars. When this equipment is received, the road expects to inaugurate eight-hour schedules between Buffalo and New York.

March Truck Traffic

Motor carriers reporting to the American Trucking Associations transported in March 2,258,911 tons of freight, an increase of 7 per cent over the 2,110,654 tons transported in February, and an increase of 17.1 per cent over the March, 1946, total of 1,928,367 tons. The A. T. A. index figure, based on the 1938-40 average, was 206 for March, as compared with 200 for the previous month.

The March figures, according to the A. T. A., are based on comparable reports from 261 carriers in 43 states. Carriers in the Eastern district reported a tonnage increase of 6.4 per cent over February and 19.1 per cent over March, 1946; carriers in the Southern region reported increases of 6.9 per cent and 10 per cent, respectively; and carriers in the Western district reported increases of 8.2 per cent and 15.6 per cent, respectively.

Fast New C. & O. Freight Train

The Chesapeake & Ohio has inaugurated a fast new freight train which cuts a day's running time off service from Chicago and Cincinnati, Ohio, to the Carolinas and other southeastern points, Robert J. Bowman, C. & O. president, announced last week. The train, No. 90, departs from Burnham, Ill., south of Chicago, at 9:30 p.m. and arrives in Cincinnati the next day in time to make early morning deliveries, Mr. Bowman said. It reaches Richmond, Va., at 2:30 p.m. the second day out of Chicago, making a 40-hr. running time between these two points.

Mr. Bowman pointed out that the new freight saves a day's time by making connections at Richmond the same day with fast freights operated by the Atlantic Coast Line and Seaboard Air Line. It also carries perishables and other freight to Richmond and Hampton Roads terminals. The new schedule, Mr. Bowman explained, is made possible by expediting the handling of the train en route, keeping it out of intermediate terminals.

Freight Car Loadings

Loadings of revenue freight for the week ended May 3 totaled 882,684 cars, the Association of American Railroads announced on May 8. This was a decrease of 11,092 cars, or 1.2 per cent, below the preceding week, an increase of 211,373 cars, or 31.5 per cent, above the corresponding week last year, and an increase of 16,650 cars, or 1.9 per cent, above the comparable 1945 week.

Loading of revenue freight for the week ended April 26 totaled 893,776 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, April 26

District	1947	1946	1945
Eastern	172,994	141,852	167,872
Allegheny	190,958	126,103	204,239
Pocahontas	67,436	15,510	56,931
Southern	137,804	114,060	131,670
Northwestern	127,941	90,942	130,635
Central Western	131,011	111,504	133,088
Southwestern	65,632	60,293	75,515
Total Western Districts	324,584	262,739	339,238
Total All Roads	893,776	660,264	899,950
Commodities:			
Grain and grain products	47,578	33,096	52,725
Livestock	15,676	19,382	16,563
Coal	184,159	31,246	175,682
Coke	14,286	6,424	15,139
Forest products	47,552	45,315	40,986
Ore	68,744	20,813	72,921
Merchandise l.c.l.	125,832	129,034	114,173
Miscellaneous	389,949	374,954	411,761
April 26	893,776	660,264	899,950
April 19	865,846	650,843	864,700
April 12	758,166	649,298	847,013
April 5	715,159	643,644	765,672
March 29	829,412	809,142	836,000
Cumulative total, 17 weeks	13,750,962	12,337,028	13,455,565

In Canada.—Car loadings for the week ended April 26 totaled 76,033 cars, as compared to 72,813 cars for the previous week and 65,183 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 26, 1947	76,033	38,507
April 27, 1947	65,183	30,994
Cumulative totals for Canada:		
April 26, 1947	1,171,779	636,577
April 27, 1947	1,123,320	592,654

A. A. R. Mechnical Division Program

The Mechanical Division of the Association of American Railroads will meet Monday, June 23, through Friday, June 27, at the Convention Hall, Atlantic City, N. J. It will convene at 10 a.m., Daylight Saving Time, June 23, in joint session with the Purchases and Stores Division and the Railway Supply Manufacturers' Association. Following the call to order by Norman C. Naylor, president of the supply association, and the invocation, there will be addresses by Joseph Altman, mayor of Atlantic City, and William T. Faricy, president of the Association of American Railroads. The members of the Mechanical Division will then take up the following program, with morning sessions beginning at 9:30 a.m., in Room B of the Convention Hall. Afternoons and Saturday, June 28, will be set aside for the inspection of exhibits.

Monday, June 23

Addresses:
- J. H. Aydelott, vice-president, Operations and Maintenance Department, A.A.R.
- J. M. Nicholson (chairman), assistant to vice-president, Atchison, Topeka & Santa Fe.

Action on minutes of 1946 meeting
Appointment of committees on subjects, resolutions, etc.
Unfinished business
New business
Report of General Committee
Report of Nominating Committee

Tuesday, June 24

Paper on Gas Turbines, by John I. Yellott, director of research, Bituminous Coal Research, Inc.
Discussion of reports on:
- Locomotive Construction
- Further Development of the Steam Locomotive

Wednesday, June 25

Address by W. J. Patterson, member, Interstate Commerce Commission
Paper on Diesel Locomotive Operation and Maintenance, by J. P. Morris, general mechanical assistant, Atchison, Topeka & Santa Fe
Discussion of reports on:
- Specifications for Materials
- Safety Appliances
- Brakes and Brake Equipment
- Wheels
- Lubrication of Cars and Locomotives
- Hot-Box Alarm Devices

Thursday, June 26

Paper on Stress Analysis of Passenger Cars, by K. F. Nystrom, chief mechanical officer, Chicago, Milwaukee, St. Paul & Pacific
Discussion of reports on:
- Arbitration
- Prices for Labor and Materials
- Tank Cars
- Loading Rules
- Lumber Loading Rules
- Couplers and Draft Gears
- Journal Bearing Development

Friday, June 27

Paper on Future Car Construction, by L. K. Sillcox, first vice-president, New York Air Brake Company
Discussion of reports on:
- Car Construction
- Geared Hand Brakes

Election of officers and members of General Committee
Report of Committee on Resolutions

N.P. Decides Against High-Speed Transcontinental Service

The Northern Pacific has announced that it will not operate a high-speed Chicago-Puget Sound streamliner as previously contemplated, but will assign its new streamlined equipment, now on order, to the present "North Coast Limited," the schedule of which will be cut only slightly. In its decision not to enter into competition with the three daily 45-hr. streamliners which will be in operation between Chicago and the Pacific Northwest, when the Milwaukee's new "Olympian Hiawatha" is inaugurated June 29, the Northern Pacific said it would concentrate on the comfort and safety of passengers, and service to intermediate communities. Consideration was given to the increase in cost of train operations which is taking place in the face of declining passenger revenues.

Western Railroads to Raise Passenger Fares June 1

Western Railroads on June 1 will increase certain passenger fares now below the basic rate. The rise will approximate 15 per cent on first-class round-trip fares between Chicago and the Pacific coast, 6½ per cent on round-trip and 12 per cent on special one-way low transcontinental coach fares, H. W. Siddall, chairman of the Trans-continental and Western Passenger Associations, said at Chicago on May 7. Mr. Siddall said no changes will be made in the basic one-way first-class fare of 3.3 cents per mile or the coach fare of 2.2 cents per mile.

Intermediate class (tourist) round-trip fares between Chicago and the west coast will increase approximately 15 per cent, he stated, and one-way tourist fares will go up "slightly." He said that first-class round-trip fares between other points in western territory will have "slight upward adjustments."

With the Government Agencies

Another Inquiry on West's Box Cars

House group to investigate Car Service Division's actions; Young to testify

In a May 6 statement asserting that it already possessed evidence "charging that an eastern financial-political combine is depriving western carriers of vitally needed freight cars by maintaining control of the Association of American Railroads," the so-called Western States Caucus of the House of Representatives announced that it would start hearings May 8 on its investigation of the A.A.R and the Interstate Commerce Commission and "their practices regarding distribution of cars. Robert R. Young, chairman of the Chesapeake & Ohio and Alleghany Corporation, was scheduled to be the first witness.

The caucus, of which Representative King, Democrat of California, is chairman, also charged that the "combine" is "applying tourniquet pressure" on the "western artery of commerce," and halting postwar development of the west through control of the A.A.R. At the same time, it asserted that while western shippers and mills plead for cars, the A.A.R.'s Car Service Division, "controlled by certain large eastern lines, makes promises but fails to carry out the duty with which it is charged by the . . . commission—to achieve equitable distribution of cars." "Because of this monopoly," the caucus asserted, "western industry is being slowly strangled for want of shipping facilities or for want of raw materials."

According to the caucus, the C.S.D. has made "inoperative" its rules designed to keep an equitable distribution of the cars on all roads. It said that W. C. Kendall, as chairman of the C.S.D. and agent of the I.C.C., "has the power" but has not revived and enforced the car service rules. After applying the same charge to the I.C.C., the caucus said that the C.S.D. is subject to the orders of the A.A.R., which, it added, is controlled by "big eastern roads."

The caucus alleged further that the "interested investors" in the railroads "which control the A.A.R." are the "biggest eastern banking houses, including the House of Morgan and Kuhn, Loeb & Co., and the great insurance firms." "They are interested in their eastern investments, and the result is shown in the distribution of the freight cars on the arteries of commerce, East compared to West," it added.

"Some eastern lines own no freight cars whatever, and do not intend to own any," the caucus said. "They use the cars of other lines, and pay $1.15 per diem for those cars. They have been discouraged by the big eastern lines from owning any rolling stock of their own. Yet a number of these lines which own no cars are plentifully supplied with cars owned by western lines, and the western lines cannot force the A.A.R. to return their cars."

The C.S.D., meanwhile, this week sent an 8-page statement to members of Congress "who have expressed an interest in the present freight car situation." The statement, in which particular reference is made to the western car supply, includes statistics and other data similar to those presented by Mr. Kendall at recent congressional and I.C.C. hearings and by William T. Faricy, president of the A.A.R., in public statements he has issued.

The statement discusses, among other things, the meaning of "on line percentages," division of cars—east and west, the return flow of cars, the effect of car service rules, and the effect of record freight loadings in the west. "Speaking . . . of the country as a whole, it is true that railroads have not been able in recent months to place currently for loading all the cars ordered at all points in all sections," the statement noted. "The shortage has been general, and not sectional. . . . But right now, there simply are not enough cars to go around, and the job is to get the most use from those which are available. That is what the railroads, the cooperating shippers and receivers of freight, and the government agencies concerned, all are trying to do. The record is that they are moving more freight more miles than ever before in peace time."

Sonnett Succeeds Berge as Anti-Trust Chief

Assistant Attorney General John F. Sonnett has been designated by Attorney General Clark as head of the Anti-Trust Division of the Department of Justice, succeeding Wendell Berge whose resignation became effective May 1. Mr. Sonnett had been in charge of the Claims Division since 1945.

House Hearing on Crosser Act Repealers Starts May 20

The House committee on interstate and foreign commerce has announced that it will begin hearings May 20 on various bills which have been introduced to amend the Railroad Retirement and Railroad Unemployment Insurance acts, including proposals to repeal the liberalizing amendments added last year by the Crosser Act.

R. R. Young Assails B. & O. Readjustment

Says handling of situation by road and R.F.C. was "dishonest or incompetent"

The appearance of Robert R. Young, chairman of the Alleghany Corporation and the Chesapeake & Ohio, as a witness, and a heated verbal clash between Senator Tobey, Republican of New Hampshire, and Senator Capehart, Republican of Indiana, marked the continuation this week of hearings before the Senate committee on banking and currency on its investigation of that phase of the Baltimore & Ohio's 1944 debt-readjustment plan which involved the extension until 1965 of a Reconstruction Finance Corporation loan in excess of $80 million.

Immediately following the May 6 session, Senator Tobey, committee chairman, announced that he would appoint a subcommittee to continue the investigation, the general purpose of which is to determine whether or not the R. F. C. shall continue to exist beyond June 30. The committee chairman indicated that the hearings pertaining to the B. & O.-R. F. C. transactions would be resumed during the week of May 19.

Sees Wall Street Connection—Appearing at the request of Senator Tobey, who described him as an "expert in railroad financial matters," Mr. Young charged, among other things, that (1) the R. F. C. "grossly and almost criminally mismanaged" the financial affairs of many railroads; (2) R. F. C. officials were either "dishonest or incompetent" in agreeing to extend the B. & O. loan; (3) the R. F. C. played "power politics and was in bed" with Wall Street; and (4) the R. F. C. created "voting trusts" by placing its former employees as voting trustees of bankrupt carriers.

"On June 31, 1945, when the B. & O. was declared bankrupt under alleged pressure of the $84 million R. F. C. loan, there was or should have been available immediately to meet that debt at least $106 million," including $40 million in cash actually on hand, $35 million in government bonds on hand and $31 million in cash unnecessarily diverted to other long-term creditors in 1943-44, Mr. Young said in a prepared statement. "Having met the R. F. C. debt, if further sums had been needed for any purpose, there was also available $128 million of collateral. Any large bank would have been delighted to have made the B. & O. a serial loan on this collateral or

security. I have not included $12 million of high grade quotable collateral strangely cancelled by the B. & O. management on the eve of the bankruptcy."

Mr. Young went on to dispute contentions to the effect that railroads must maintain large cash balances and a substantial net working capital position to carry on operations. "Railroads," he said, "unlike manufacturing companies, are not burdened with heavy accounts receivable and inventory requirements. On balance, a railroad receives cash for its services before it is required to lay out cash for labor, supplies, etc., to render that service."

The witness said that the Nickel Plate and Pere Marquette, which he described as the C. & O.'s "once-financially-weak subsidiaries," were safely brought through "far more difficult times" than the B. & O. faced in 1945. "Cash balances were drawn down nearly to the vanishing point to meet maturities and other obligations," he continued. "If necessary, we would have drawn our cash balances down to zero rather than to injure a single security holder. It is for just such emergencies that cash and net working capital are carried. When necessary, the payment of accounts due suppliers and to other railroads for traffic balances can also be deferred."

Working Capital Not Needed—"Even the rich Chesapeake & Ohio found it profitable to reduce its net working capital position to a few million dollars from the end of 1943 to the end of 1945 at the very time it was doing the largest business in history, and witnesses were saying that the Baltimore & Ohio needed a record-breaking sum of working capital," Mr. Young said. "That a railroad can operate with less than no net working capital and with a very small amount of cash, is generally known in the railroad industry, as is evidenced also by the Baltimore & Ohio's own history and the history of such well-known properties as the New York Central."

Mr. Young told the committee that the B. & O. should have had available $246 million on July 31, 1945, to "meet any requirements." He said that total included the aforementioned $106 million, in addition to $128 million in quotable security and $12 million in quotable security "strangely cancelled."

"That Congress is alert to the railroad bankruptcy frauds is evidenced by its passage last year of S.1253, vetoed by the President because it was not good enough," Mr. Young stated. "With this bill reenacted in a form acceptable to the President, as I am sure it will be in the near future, situations such as the Baltimore & Ohio's can be easily and honestly taken care of. In my opinion, the handling of this situation by the Baltimore & Ohio management and the R. F. C. was either dishonest or incompetent. One does not expect incompetency in financial matters from the R. F. C. or former R. F. C. officials."

R. F. C. Appraised—In response to questions Mr. Young, who said that he obtained his information on the financial status of the B. & O. from Senator Tobey, "Moody's" and "other publications," declared that the R. F. C. could be compared to Shakespeare's "Shylock" in that it "demanded its pound of flesh" from carriers to which it had lent funds during the depression by forcing them to remain in bankruptcy after they had become "solvent." At the same time, he asserted that Congress should "investigate and dissolve" the so-called voting trusts.

Mr. Young declared that the R. F. C. was responsible for the installation of R. B. White as president of the B. & O. and the presence of several former R. F. C. officers in top-ranking B. & O. executive positions. He told the committee that the R. F. C. played "power politics with Wall Street" with respect to the bankruptcy of the Erie, Missouri Pacific, Chicago & North Western, B. & O. and 'half a dozen other bankrupt roads." "The B. & O.-R. F. C. deal is bad for the American people and bad for the B. & O. people, too," the witness concluded.

The argument between Senators Tobey and Capehart developed when there was brought into the hearing the name of Randolph Phillips, a B. & O. bondholder who had opposed the adjustment plan. Senator Capehart said he had heard it "peddled and gossiped around" that Mr. Phillips' name had formerly been Moses. Mr. Phillips, who testified later, explained that his mother's maiden name was Phillips, and that has been his name since he was two and one-half years old, when his mother resumed it upon the death of his father, the late D. V. Moses.

Senatorial Quarrel—Meanwhile, Senator Tobey had assailed his colleague from Indiana, saying: "You have the rights of a senator, Senator Capehart, but I think that these questions of yours . . . are entirely unfair and entirely irrelevant, and to me it seems that they are entirely un-American . . . I do not know whether he is a Jew or took his mother's name. I am interested in the facts about the B. & O. reorganization and the R. F. C. No red herring is going to deter me until we go all the way through to the bitter end, no matter who it hits."

Senator Capehart said in reply that Senator Tobey was "not interested in knowing the facts" and that he [Senator Capehart] was "sick and tired" of the committee chairman "casting aspersions on B. & O. people and myself as well." "Get this straight," the Indianan continued, "from now on we're going to have a fair hearing and you are not going to cast aspersions on your colleagues in the United States Senate. . . . The minute I ask a question, which I felt was fair and honest, you accused me of doing it for some ulterior motive."

The reference to Mr. Phillips which precipitated the senatorial argument came when Mr. Tobey was examining R. L. Snodgrass, vice-president of the B. & O. and former assistant general counsel of the R. F. C. The chairman was going into the question whether Mr. Snodgrass had prevailed upon the postmaster at Baltimore, Md., to hold up letters mailed by Mr. Phillips to other B. & O. security holders from whom he was seeking support for his opposition to the adjustment plan.

Mr. Snodgrass said that the envelopes of the letters bore the word "warning," and that he had raised a question as to their mailability with the Baltimore postmaster. The latter ruled that the letters were mailable and let them go forward. "They were mailed," Mr. Snodgrass added, "under the duress of a letter from a Securities and Exchange Commission commissioner holding that they were not materially misleading." F. E. Baukhages, general solicitor of the B. & O. and another former member of the R. F. C. staff, described Mr. Phillips as a "strike suitor" and a "troublemaker."

When he spoke for himself, Mr. Phillips accused the B. & O. of having sent an investigator to his home to suggest that he discontinue his opposition to the adjustment plan lest he be "embarrassed" by disclosure of the fact that his name had been changed. The dissenting bondholder said further that "there is probably no tactic" to which the B. & O. would not have resorted to prevent opposition to the plan. He also characterized Senator Capehart's statements about him as "unfair and regrettable."

Statement of Snodgrass—In his further testimony, Mr. Snodgrass protested that Senator Tobey was not permitting him to deliver his prepared statement about the matters under investigation. The B. & O. vice-president also denied that there had been withheld from the final minutes of an April 21, 1943, meeting of his road's board of directors, a resolution which indicated that the B. & O. could operate on a working capital of $6,225,000. In reply to a volley of questions from Senator Tobey, he insisted that all B. & O. documents in question were in the company's files, that the readjustment plan was entirely legitimate, and denied that the minutes were suppressed for fear that they may have been subpoenaed in the reorganization proceedings.

Mr. Snodgrass said that the B. & O. on November 30, 1945, sent to the R. F. C. a report in which it stated that it had approximately $66 million current assets over liabilities, adding that this figure included materials and supplies, on which, he said, the B. & O. could not call to float loans or pay debts. At that time, he added, the B. & O. had a net working capital of approximately $49 million.

In an earlier session of the hearings this week, Mr. Snodgrass, in a 27-page prepared statement, told the committee that the B. & O. had a net income of $122,373,250 between January 1, 1940, and October 31, 1944. Of that income, he added, approximately $80 million was applied toward interest charges and the retirement of securities issued under previous refinancing programs. Also embodied in his statement was a review of the B. & O.'s unsuccessful attempt to pay off its debt to the R. F. C. before it matured, its negotiations with the R. F. C. for the extension of the loan and approval by the I. C. C. and the court of the transaction.

Mr. Snodgrass also described as "star chamber tactics" the refusal of R. L. L'Heureux, committee counsel, to permit a B. & O. employee to examine files of the railroad which the B. & O. had "voluntarily turned over to the committee."

Court Saw "Evidence"—"Counsel L'Heureux's devotion to 'star chamber' tactics has been obvious since issuance of his so-called 'prima facie' case press re-

lease," Mr. Snodgrass said. "Every charge he has made and every 'fact' he has produced to substantiate his charges was considered and found utterly baseless by a federal court of three judges which approved and confirmed the B. & O. adjustment plan. He has wilfully libelled men of standing and repute in their communities, although information in his possession is sufficient to demonstrate the untruthfulness of his statements. Mr. L'Heureux's latest action, denying to the B. & O. the right to examine its own files, voluntarily surrendered into the committee's possession, is a new low in public conduct."

Mr. L'Heureux said he would have been "derelict" in his duty as committee counsel and would have been guilty of "malpractice" as a lawyer if he had permitted the B. & O. representative, C. P. McEvoy, to examine the files, which, he said, were subpoenaed by the committee.

Mr. Baukhages, who at one time during the hearings was told to "sit down and keep quiet" by Senator Tobey, later testified that in his opinion Mr. Young has "a great deal to gain" by appearing in opposition to the B. & O. plan and its affiliations with the R.F.C. "I can't prove it, but I am sure that he has a close connection with Mr. Phillips," he said.

The B. & O. general solicitor also took Senator Tobey to task for the use of such terms as "crooked and dishonest." "Now I am not dishonest," Mr. Baukhages told the committee chairman. "I believe I have gained a reputation for honesty. Whether I have it now or not, I don't know. If I haven't, I can thank you, sir." "I challenge you to say that I said you were crooked," Senator Tobey replied, adding that all B. & O. witnesses will be given an opportunity to testify. "I accept that challenge," Mr. Baukhages answered.

Another witness, G. F. May, secretary of the B. & O. from 1929 to 1944, explained his duties while employed by that road, particularly the handling of minutes recorded at meetings of the B. & O.'s board of directors. He emphatically asserted that, to his knowledge, there had been no tampering with or deletion of information or financial reports pertinent to the B. & O.'s readjustment plan.

Truman Asks Funds to Keep O. D. T. Another Year

President Truman's request for an appropriation to keep the Office of Defense Transportation in operation for another year after next June 30 went to Congress last week. He asked for $644,000, submitting with the request a supporting statement from the Bureau of the Budget which also said that provisions of the Second War Powers Act relating to transportation should be extended.

"The transportation situation with respect to the shortage of freight cars," the bureau said, "is now more serious than during the war years. In 1946 the railroads were able to furnish only about 85 per cent of the shippers' requirements for cars and this condition has been further aggravated since the construction of new cars has failed to keep pace with the number of worn-out cars being removed from service. At the same time the volume of railroad traffic is increasing.

"To alleviate this situation the Office of Defense Transportation is now engaged not only in the very serious problem of car allocation and distribution but also in the encouragement of the manufacture of new cars. The present rate of production of new cars is less than 3,000 per month. No improvement in the transportation situation can be expected until the production rate equals at least 10,000 per month. In view of the gains being made by this agency, in cooperation with manufacturers and the railroad industry, toward the solution of these problems it is important that these functions be continued in the fiscal year 1948."

Bad-Order Private Cars Not Subject to Tariff Charges

When privately-owned cars used by railroads under mileage-allowance arrangements are temporarily withdrawn from transportation service to undergo repairs, their movement to and from repair facilities is not subject to published tariff charges, the Interstate Commerce Commission has ruled in a 5-to-3 decision. The ruling reverses a prior report by the commission's Division 3 on that phase of Ex Parte 104's terminal services investigation which involves switching performed at the North Baton Rouge, La., plant of the Union Tank Car Company.

The foregoing determination was reached with respect to what the report called the "more important question" under consideration, but the commission also found that switching services performed at the plant by the Illinois Central and Louisiana & Arkansas, without charge in addition to line-haul rates, are not unlawful. This, too, was a reversal of the division which found that the line-haul rates did not include switching services beyond designated tracks.

Commissioner Patterson filed a dissenting expression, while the dissents of Commissioner Lee and Miller were noted. Commissioners Barnard and Mitchell, the former "being necessarily absent," did not participate.

The privately-owned, bad-order cars involved were Union's tank cars, and the switching service accorded them included movements from I.C. or L.&A. yards to Union's repair tracks; between points on those tracks when necessary to complete repairs; and the return of the cars (after repairs) to the railroads' yards or loading points in the plant. Division 3 found, in effect, that the tank cars, when discovered in bad order, lose their status as instrumentalities of transportation and become property subject to transportation charges within the meaning of section 6 (7) of the Interstate Commerce Act.

"With respect to this question," the commission said, "there is no difference (from the standpoint of law) between (a) cars owned by the carriers using them; (b) cars owned by carriers other than the one using them; and (c) cars rented by carriers from private owners. Cars of all three categories are used by respondents as facilities or instrumentalities of transportation in performing their service as common carriers. The cars of all three classes are temporarily taken out of service for repairs many times before they finally become unfit for use in the carriage of property, and it is not until then that they lose their status as instrumentalities of transportation and become property' within the meaning of section 6 (7). . . . "

The question of whether mileage allowances paid by the railroads for use of the tank cars includes consideration of the bad-order switching was dismissed by the commission as one which had "no important bearing" upon the issue. The report added that if it were to be shown that the mileage allowance had ignored the cost of such switching, the "proper remedy" would lie in readjustment of the allowance—not in the prescription of charges for the switching.

Dissenter Patterson was "in complete disagreement" with the majority on the matter. With pertinent citations from previous commission reports, he expressed his opinion that "private cars are in transportation service only when they are being handled in revenue service."

"They are not," Mr. Patterson continued, "in such service when they are withdrawn for repairs, and when a carrier moves them during the period of such withdrawal the owner should be required to pay, and the carrier to collect, an appropriate charge for that service. If, as the majority concludes, they are not property during such period of withdrawal the car company could have them hauled to its repair shops in New Jersey, and returned to Baton Rouge, without charge, because if they are not property for a short haul to a repair shop, they do not become so merely because the shop is farther away."

Emergency Board Report

Settlement of disputes between the Grand Trunk Western, Pere Marquette, Wabash, and Ann Arbor and their carferry employees as represented by the National Maritime Union, Congress of Industrial Organizations, has been brought about by the emergency board which President Truman appointed last month when the union threatened to call a strike. The board reported to the President that the mediation which it undertook after holding hearings had brought about the settlement.

The disputes originally involved demand of the union for some 29 changes in working rules and counter-proposals of the carriers. They were finally narrowed to less than five "principal points" on which agreements were reached. The settlement established a year's moratorium on the other rules involved. Members of the board were Chairman Frank M. Swacker, Harry H. Schwartz, and Hugh B. Fouke.

Won't Let I. C. Take Direct Control of Truck Services

Division 5 of the Interstate Commerce Commission has denied Illinois Central applications for certificates of public convenience and necessity authorizing common-carrier trucking operations over five routes where it has been offering coordinated rail-highway services under contractual arrangements with independent motor carriers. The report was in No. MC-86779 (Sub-No. 9).

The railroad indicated that, under the proposed new set-up, it might lease equipment from the contract truckers now performing the service — if "satisfactory arrangements" could be made. It did desire, however, as the commission's report said, "to assume full responsibility" for the service; and it contended that only under such a plan can a motor carrier service be "completely and satisfactorily coordinated with its rail operations."

The commission's adverse ruling was based on its conclusions that the contract truckers were able to continue performing adequate service, and that "no shipper need for a change in method . . . has been disclosed of record." The routes involved are between Jackson, Miss., and McComb; McComb and Ponchatoula, La.; Vicksburg, Miss., and Monroe, La.; Monroe and Shreveport, La.; and Jackson and Gulfport, Miss.

Representation of Employees

The Brotherhood of Maintenance of Way Employees has retained the right to represent Atlanta & St. Andrews Bay maintenance of way employees as the result of a recent election which has been certified by the National Mediation Board. The B. of M. of W. E. defeated the Alabama-Florida Trackmen's Association, 37 to 16.

Hearings June 10 on R. E. A. Rate-Increase Petition

The Interstate Commerce Commission has set June 10 as the date for hearings at Washington, D. C., on the Railway Express Agency's petition for additional rate increases which would yield approximately $70,000,000 a year to provide what the petition called adequate compensation for services performed by the railroads in transporting express traffic. The sessions beginning June 10 will be further hearings in the Ex Parte No. 163 proceeding, wherein the commission has already approved for R. E. A. increases calculated to produce $58,900,000 in additional annual revenue for a period of one year from last December 13.

Also involved in the hearing will be the traffic studies which the commission required R. E. A. to make in order to determine the effect of the December increases. Results of those studies, which covered a test period from January 16 to 31, have been made public by the commission. They show that the selected movements of l.c.l. traffic of all classes involved 83,198 shipments on which the total revenue was $165,094.01 or an average of $1.98 per shipment. The revenue under rates in effect prior to the December 13, 1946, increase would have been $138,384.89 or $1.66 per shipment.

Bills in Congress

Senator Reed, Republican of Kansas, has introduced S.1194 to amend the Interstate Commerce Act with respect to the liability of motor carriers, water carriers and freight forwarders for "payment of damages to persons injured by them through violations of such act."

Representative O'Hara, Republican of Minnesota, has introduced H.R.3307 to establish a Federal Traffic Bureau with jurisdiction over all matters relating to transportation purchased by the government.

Representative Cole, Republican of Kansas, has introduced H.R.3317 to amend the Civil Aeronautics Act by adding to its certificate provisions a stipulation to the effect that "no special or different standards, requirements, or burden of proof shall be applied to any applicant . . . because it is a carrier other than an air carrier." H.R. 3134, a similar bill, was previously introduced by Mr. Cole.

Delegate Farrington, Republican of Hawaii, has introduced H.R.3818 to repeal the tax on amounts paid for passenger transportation.

Equipment and Supplies

LOCOMOTIVES

Frisco to Spend $5,719,000 for 19 Diesels This Year

The board of directors of the St. Louis-San Francisco has authorized the purchase of 19 Diesel-electric road and switching locomotives at an estimated cost of $5,719,000, Clark Hungerford, president of the Frisco, has announced. The purchase will comprise 46 units, i.e., nine four-unit 6,000-hp. freight locomotives and 10 1,000-hp. switch engines.

"These purchases are a part of the Frisco's plans for keeping abreast in the transportation field, and for continuing our policy of giving efficient service to our patrons," Mr. Hungerford stated. He said the new freight locomotives will operate through from Kansas City, Mo., to Birmingham, Ala., and other southeastern points, and from St. Louis, Mo., to the Southwest.

The Chicago, Rock Island & Pacific has ordered two 1,500-hp. Diesel-electric passenger locomotives from Fairbanks, Morse & Co., at a cost of $137,000 for each locomotive.

FREIGHT CARS

Freight Cars Ordered in April Totaled 8,861

Freight cars ordered by domestic railroads during April totaled 8,861, including 2,751 ordered from railroad shops, compared with March orders for 12,049 freight cars, including 2,351 ordered from railroad shops, S. M. Felton, president of the American Railway Car Institute, announced last week. Deliveries in April amounted to 4,123 cars, including 634 from railroad shops, compared with March deliveries of 2,883, including 444 from railroad shops. The backlog of domestic freight cars on order and undelivered on May 1 reached 99,346, including 25,031 on order from railroad shops.

"During April, steel companies began rolling freight-car type steel in increased volume," Mr. Felton said, "and a further increase in rolling is scheduled for July, on a 10,000-cars-a-month level. While these increases in metal supply cannot immediately be reflected in car deliveries, the production trend should begin to climb sharply, assuming that we get the necessary steel in full car sets."

The Atchison, Topeka & Santa Fe has ordered 225 70-ton hopper cars from the Pullman-Standard Car Manufacturing Company.

The Consolidated Chemical Industries has ordered 25 100-ton tank cars from the General American Transportation Corporation.

The Denver & Rio Grande Western has ordered 10 steel cabooses from its own shops.

The Detroit Chemical Works has ordered 2 50-ton tank cars from the General American Transportation Corporation.

The General American Transportation Corporation has ordered 72 tank cars from its own shops, of which 10 will have a 40-ton capacity and 62 will be of various capacities.

The Monsanto Chemical Company has ordered 9 50-ton tank cars from the General American Transportation Corporation.

The Stauffer Chemical Company has ordered 3 50-ton and 2 70-ton tank cars from the General American Transportation Corporation.

The Virginian has ordered 1,000 55-ton hopper cars from its Princeton, W. Va., shops. Construction is scheduled to begin in August.

PASSENGER CARS

The Chicago, Rock Island & Pacific has ordered two trains for suburban service from the Pullman-Standard Manufacturing Company, each consisting of six cars, made up of two 3-car articulated units. Each of the four articulated units will cost $200,000.

SIGNALING

The American Locomotive Company has ordered 18 sets of intermittent inductive train control equipment from the General Railway Signal Company. This equipment will be installed on freight and passenger Diesel-electric locomotives for the Erie.

Construction

N. P. To Spend $8 Million In Rail, Ballast Program

The Northern Pacific has begun work on an $8,000,000 rail and ballast program, one of the road's largest in 25 years, C. E. Denney, president, announced this week. The program, contingent on the availability of steel and labor, provides for the placing

of 38,250 net tons of new rail and 950,000 cu. yd. of stone ballast, Mr. Denney said. New 131-lb. and 115-lb. rail will be laid on 174 mi. of the N. P.'s main line, including six of the road's seven divisions. A total of 329 mi. of track will be ballasted, which will include work on all divisions.

ATLANTIC COAST LINE.—This road has authorized the following projects, the probable costs of which are given in parentheses: A systemwide improvement to passing tracks ($470,000); a new freight station at Winter Park, Fla. ($64,100); replacing a freight station at Sanford, Fla. ($47,575); and laying additional yard tracks at Albany, Ga. ($33,937).

LOUISVILLE & NASHVILLE. — This road has scheduled for construction projects totaling approximately $4,250,000. The individual projects, their locations and costs are as follows: Improve old freight house, Louisville, Ky., $20,000 rebuild interlocking plant, Carmi, Ill., $40,897; reconstruct West Pascagoula bridge, West Pascagoula, Miss., $797,526; connection with St. Louis-San Francisco, Cantonment, Fla., $20,778; rebuild portion of bridge No. 82, Alabama Mineral branch, $27,624; mechanical coaling and cinder facilities, Mt. Pleasant, Tenn., $27,137; install centralized traffic control system between Irvine, Ky., and Maloney, $365,697; install C.T.C. system between Maloney and Perritt, Ky., $494,-318; extend Rockhouse Creek branch 16.7 mi., Eastern Kentucky division, $1,994,626; reconstruct transfer table pits, South Louisville, $129,494; replace and rearrange mechanical facilities, new coaling plant, etc., Boyles, Ala., $301,291.

SEABOARD AIR LINE. — This road has awarded contracts for the following projects, the approximate costs of which are shown in parentheses: To the Massey Concrete Products Company, Atlanta, Ga., for concrete piles and slabs for two bridges near Savannah, Ga. ($153,000); to the Artley Company for a 2-story office and signal equipment building in Savannah ($72,000); and to John W. Coffey & Son, Raleigh, N. C., for an extension to a merchandising warehouse in Raleigh ($22,000).

CHICAGO, INDIANAPOLIS & LOUISVILLE.—This road has applied to the Interstate Commerce Commission for authority to construct a new 6.7-mile line between Armour, Ind., and Lowell. The new line would be located west of the present line, for which an abandonment authorization is sought.

Organizations

The **National Freight Traffic Golf Association** will hold its spring meeting at French Lick Springs, Ind., May 12 to 14, inclusive.

The **Car Department Association of St. Louis** will meet at the DeSoto Hotel, St. Louis, Mo., on May 20 at 8 p. m. L. L. Sturdes, district storekeeper of the Missouri Pacific, will present a paper entitled "The Philosophy and Characteristics of Life."

The **Northwest Locomotive Association** will meet May 19 at 8 p. m., at Colonial Hall, St. Paul, Minn. It will be the annual meeting at which the election of officers will be held.

The 73rd regular meeting of the **Pacific Coast Transportation Advisory Board** will be held in Los Angeles, Cal., on June 18 and 19. Included in the program will be the presentation of committee reports.

The **Central Western Shippers Advisory Board** will hold its 25th annual and 55th regular meeting on June 17 and 18 at the Hotel Colorado in Glenwood Springs, Colo.

At the annual meeting of the **St. Louis Traffic Club,** held April 29 at the DeSoto Hotel, the following were elected to office: J. E. Hitt, Walter Bledsoe & Co., president; Oris A. Vinyard of the Southern, C. S. J. Flood of Anheuser Busch, Inc., and D. L. Carter of the Missouri Pacific, vice-presidents; and J. E. Flynn, Terminal Railroad Association, secretary-treasurer. F. J. Furest of the Missouri-Kansas-Texas, H. Waninger of Anheuser-Busch, Inc., S. Hirschmugl, Cupples Co., L. V. Gudiswitz, Graham Paper Co., and R. P. Yellen of the Norfolk & Western were elected to serve on the board of directors.

Hot Bearings on Cars and Locomotives will be the subject of discussion at the meeting of the **Southern & Southwestern Railway Club** on May 15 at the Ansley Hotel, Atlanta, Ga. Included in the list of speakers who will address the meeting are: D. A. Reavis, general foreman car department, Nashville, Chattanooga & St. Louis; C. W. Kimball, assistant supervisor of car repairs, Southern; W. J. Jarrett, master mechanic, Seaboard Air Line; Wm. J. Crabbs, mechanical engineer, Atlantic Coast Line; Gordy Stewart, superintendent of air brakes, Florida East Coast; and G. W. Burke, master mechanic, Central of Georgia.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION. — C. F. Weil, American Brake Shoe Company, 332 S. Michigan Ave., Chicago 4, Ill. Exhibit in conjunction with meetings of the Coordinated Mechanical Associations, September 15-18, 1947, Hotel Sherman, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—F. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo. Annual meeting, October 8-10, 1947, Houston, Tex.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual Meeting, June 5-7, 1947, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 16-18, 1947, Hotel Stevens, Chicago.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION. —W. J. Walsh, B. & O. R. R., Baltimore 1, Md.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Clifford G. Massoth, Illinois Central Magazine, 135 E. 11th Pl., Chicago 5, Ill.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. P. Nye, Tower Bldg., Washington 5, D. C. Annual meeting, October 21-22, 1947, Hotel New Yorker, New York, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, Asst. Secretary, 1916 Race St., Philadelphia 3, Pa. Annual meeting, June 16-20, 1947, Chalfonte-Haddon Hall, Atlantic City, N. J.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS. —C. E. Davies, 29 W. 39th St., New York 18, N. Y. Semi-annual meeting, June 16-19, 1947, Hotel Stevens, Chicago, Ill. Annual meeting, December 1-5, 1947, Chalfonte-Haddon Hall, Atlantic City, N. J.
Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill. Semi-annual meeting, June 17, 1947, Chicago, Ill.

AMERICAN TRANSIT ASSOCIATION.—A. W. Baker, 292 Madison Ave., New York 17, N. Y.

AMERICAN WOOD-PRESERVERS' ASSOCIATION. — H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C. Annual meeting, April 27-29, 1948, St. Paul, Minn.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O. Annual meeting, October 6-8, 1947, Lord Baltimore Hotel, Baltimore, Md.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—W. F. Ziervogel, 605 S. Ranken Ave., St. Louis 3, Mo.

ASSOCIATION OF AMERICAN RAILROADS. — H. J. Forster, Transportation Bldg., Washington 6, D. C.
Operations and Maintenance Department.—J. H. Aydelott, Vice-President, Transportation Bldg., Washington 6, D. C.
Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.
Communications Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.
Fire Protection and Insurance Section. —W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.

(Continued on page 969)

Overseas

GREAT BRITAIN.—The London & North Eastern has announced it will spend £377,-000 to complete the widening of its main line between Northallerton and York. The roadbed project will cost about £250,000 and the signalling work about £120,000. Track-circuited throughout, the announcement said, the new lines will be equipped with color-light signals of the 3 and 4 aspect automatic and semi-automatic searchlight type.

MEXICO. — The Interoceanic, the main line of which extends from the port of Vera Cruz on the Gulf of Mexico to Mexico City, has begun converting from narrow-gage track to standard gage, according to a report from the American embassy in Mexico City appearing in the Foreign Commerce Weekly of the United States Department of Commerce. The road, part of the National Railways of Mexico, expects to complete the project within eight months.

Completion of the railroad which will connect Mazatlan, on the Pacific coast, with Durango, about 100 miles inland, has been virtually assured by the allotment of 80,-000,000 pesos for that purpose by the national government, the embassy also reported. No definite date has been set for the resumption of work on this proposed line.

Car Service

The I. C. C. has issued Service Order No. 725 which prohibits installation of bulkheads to reduce the capacity of cars to be loaded with watermelons and requires railroads to distribute cars for watermelon loading without regard to ownership and in such manner as to provide fair and equitable distribution of 36-ft. and 40-ft. cars. The order, effective from May 15 until September 30 unless otherwise modified, applies only to interstate shipments originating in the territory east of the Mississippi and south of the Ohio and Potomac rivers. It is similar to Service Order No. 502 which was in effect during the 1946 watermelon shipping season.

I. C. C. Service Order No. 104 (fourth revised), which provides for the substitution of RS type refrigerator cars for box cars ordered for westbound carload shipments, has been further modified by Amendment No. 5. The amendment, effective May 9, eliminates from destination territory the states of Minnesota, North and South Dakota, Montana, Washington, Oregon and northern Idaho; and it adds a new paragraph allowing refrigerator cars to be used in lieu of box cars from points in the East and South to Chicago and St. Louis, Mo., when such cars are rebilled to Arizona, California, Nevada, Utah or southern Idaho within 48 hrs. of actual or constructive placement at Chicago or St. Louis.

I. C. C. Service Order No. 180 (fourth revised), which provides for "super-demurrage" charges on refrigerator cars, has been modified by Amendment No. 11 to provide a new scale of such charges. The new scale, effective from May 2 until June 1, provides that the charge, after the expiration of free time, shall be $2.20 for the first day, $5.50 for the second day, and $11 for each succeeding day. Under the previous scale the charge got as high as $44 per day, but the $2.20 rate applied for the first two days after expiration of free time.

I. C. C. Service Order No. 70, which restricts the number of diversions or reconsignments on refrigerator cars loaded with fresh or green fruits or vegetables, has been extended by Amendment No. 5, which sets back the expiration date from May 10 until December 1.

I. C. C. Service Order No. 647-D, effective May 4, vacated Revised Service Order No. 647 which had provided for limited priorities on government grain shipments in the Pacific Northwest.

The O. D. T. issued a May 5 statement saying that the country is now, at the beginning of the 1947 grain season, "in a better position with respect to transportation of the new grain crop than we have been in any year since 1944." The statement continued as follows:

> While there have been widespread complaints by the grain and milling interests about the boxcar supply and the failure of the railroads to move the tremendous grain crop, there is no substantial amount of grain in position still pressing for transportation. Moreover, the stocks of grain on the farms are the lowest for any year since the Dust Bowl days of the early Thirties.
>
> The total production of grains last year was the largest in history—approximately 420 million bushels over the record crop of 1945. Stocks of grain on farms April 1 represented only 32.7 per cent of the total production of all grains the previous year.
>
> From April 1, 1946, to April 1, 1947, a total of 2,461,254 carloads of grain and grain products were loaded by Class I railroads. 242,577 carloads or 8.6 per cent of the total grain and grain products were delivered to ports for export.

Supply Trade

R. H. Daisley, vice-president and director of operations of the **Eaton Manufacturing Company,** Cleveland, Ohio, has been elected a director of the Cleveland Hobbing Machine Company.

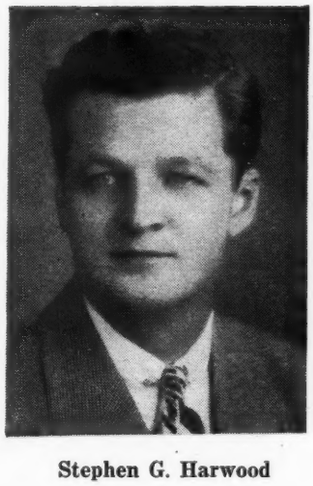
George L. Fox has been appointed sales manager of the Rusta Restor division of the **Johnston & Jennings Co.,** Cleveland, Ohio, succeeding **A. B. MacTaggart,** who has retired from sales work to devote his full time to research and development.

Newell H. Orr, who has been in charge of Western division sales for the **Colorado Fuel & Iron Corp.,** Denver, Colo., has been appointed vice-president in charge of sales for the corporation and its subsidiary companies. **F. S. Jones** has been appointed manager of commercial sales of the Western division.

John C. Cushing has been appointed director of industrial relations of the United States Steel Supply Company (a subsidiary of the **United States Steel Corporation),** at Chicago, succeeding **J. W. B. Foringer,** who has resigned.

Brison Wood has been elected treasurer of the **Minneapolis-Honeywell Regulator Company,** Minneapolis, Minn., succeeding **William L. Huff,** who has been serving as executive vice-president and treasurer. Mr. Huff will continue as a director of the company and executive vice-president.

Stephen G. Harwood, formerly district sales manager for the **American Locomotive Company** in San Francisco, Cal., has been appointed New York district sales manager, to succeed **L. S. Peabody,** who has been appointed assistant to vice-president Norman C. Naylor. Mr. Harwood was graduated from Dartmouth College in 1932 and in the same year joined the sales department of the Goodyear Tire & Rubber Co. In 1936 he joined American Locomotive and served as a sales representative in Chicago until his appointment as district sales manager in San Francisco.



Stephen G. Harwood

Henry H. Knapp has been appointed a sales representative of the railway equipment division of the **American Welding & Manufacturing Co.,** Warren, Ohio.

Henry H. Knapp

Mr. Knapp began his career in 1927 when he joined the equipment engineering division of the New York Central. In 1941 he was appointed special representative for the prevention of damage to car lading for the entire New York Central System. He joined American Welding in 1945 as service engineer.

The **General Electric Company** has announced the appointment of **Horace A. Davis** as New York district manager of its transportation division, to succeed **R. M. Darrin,** who has been appointed assistant New York district manager of the Central Station division. Mr. Davis joined General Electric in August, 1912, as a student engineer. He left the company in April, 1916, but returned in 1920 and for three years was an instructor on various assignments, after which he transferred to the Erie, Pa., works, serving successively in the air brake engineering and the transportation engineering divisions. In 1939 he was appointed sales engineer for the transportation division, New York district, which position he held until his recent appointment.

Mr. Darrin joined General Electric in June, 1919, as a commercial engineer in the Central Station Division at the Pittsfield works. In 1928 he was placed in charge of holding companies and Central Station sales at the Buffalo, N. Y., office and, in July, 1940, was appointed manager of the Syracuse, N. Y., office. He was appointed New York district manager of the transportation division in April, 1945.

George B. Parker, administrative assistant to the sales vice-president of the **United States Steel Supply Company** (a subsidiary of the United States Steel Corporation), at Chicago, has been promoted to general staff manager of the

sales department, with the same headquarters. In his new capacity Mr. Parker will be responsible for the administration of advertising, commercial research, market development, and price policy functions of the company in its nine operating districts. **Linus E. Olson,** staff assistant to the sales vice-president, at Chicago, has been promoted to manager of the advertising division. **William A. Crane,** staff assistant to sales vice-president, has been promoted to manager of the commercial research division.

John F. Considine, formerly assistant district manager of the Chicago plant of

John F. Considine

the **American Car & Foundry Co.,** has been appointed district manager of that plant. Mr. Considine began his career with the Pullman Company in the engineering department of the Chicago passenger car shops. He joined American Car & Foundry in 1924 as an inspector at the wood mill, subsequently serving as assistant foreman in various departments until his promotion to general foreman of the wood erection shop. In 1942 he was appointed superintendent of the wood car department and later general superintendent.

Justus W. Lehr

Justus W. Lehr has been appointed district manager in charge of the Berwick, Pa., plant, as reported in the *Railway Age* for May 3.

J. Lester Perry, assistant to the president of the **United States Steel Corporation of Delaware,** has been elected president of the **Columbia Steel Company,** a U. S. Steel subsidiary, to succeed the late **William A. Ross,** who died in San Francisco, Cal., on April 19. Mr. Perry was scheduled to retire May 1, but has agreed to serve as president of Columbia Steel until a permanent successor to Mr. Ross is elected.

J. D. Brandon, whose election as president of the **American Arch Company** was announced in the *Railway Age* for May 3, entered railroad service in 1906 as a section hand on the Cleveland, Cincinnati, Chicago & St. Louis, advancing to general foreman of the road's Brightwood, Ind., shop. In 1915 he joined the American Brake Shoe & Foundry Co. as a service engineer. Mr. Brandon joined American Arch in 1919, as a service engineer in the Canadian territory and later transferred to the Chicago area. In 1924 he joined the Pittsburgh Steel Company as assistant manager of sales in the Chicago district, serving in that capacity until 1927, when he returned to American Arch as assistant to the vice-president. Later the same year he was appointed vice-president in charge of the Chicago office and, in 1943, vice-president in charge of all sales, the position

J. D. Brandon

he held at the time of his recent appointment. He was elected to the board of directors early this year.

J. Herbert Myers, formerly secretary of the **Lodge & Shipley Co.,** has been elected vice-president in charge of machine tool division sales. Mr. Myers also is a member of the board of directors. **Harry J. Buettinger,** treasurer, has been elected secretary as well.

Gene P. Robers has been promoted to sales manager of the replacement parts division of the **Weatherhead Company,** with headquarters in Cleveland, Ohio. Mr. Robers also will continue as advertising and sales promotion manager for the firm.

Paul J. Maddox, assistant vice-president of the **Laclede-Christy Clay Products Company,** St. Louis, Mo., has been appointed general sales manager of the refractories division.

C. L. Cummins, who founded the **Cummins Engine Company** in 1919, has been elected chairman of the board of directors. **J. I. Miller,** former vice-president and general manager, has been elected president.

Mr. Cummins, a pioneer in the development of the high-speed Diesel engine, founded the company to build what was then called the "Cummins oil engine." The company's early years were devoted chiefly to experimentation, with only a few engine models being produced. In 1930, Cummins Engine introduced its fuel distribution and injection system. Acceptance of Cummins Diesel engines in the automotive field led to their introduction in many other applications.

C. L. Cummins

Mr. Miller joined the company in 1934 and has been connected with it continuously since that time except for the years 1942-1944, when he was an officer in the Navy. He is a director of the American Zinc, Lead & Smelting Co.

Financial

CHESAPEAKE & OHIO.—*N. Y. C. Stock and Directorships.*—The Interstate Commerce Commission has permitted the city of Norfolk, Va., to intervene in the proceeding wherein this road is seeking to release its holdings of New York Central stock from trusteeship, and in other proceedings wherein Robert R. Young and Robert J. Bowman, chairman and president of the C. & O., respectively, are seeking authority to serve as N. Y. C. directors. (See *Railway Age* of April 12, page 759, and April 26, page 871.)

CHESAPEAKE & OHIO-PERE MARQUETTE. —*Merger.*—The Interstate Commerce Commission has postponed "pending the further order of this commission" the effective date of its Division 4's May 1 order which authorized merger of the Pere Marquette into the Chesapeake & Ohio, and acquisition by the Alleghany Corporation, through the C. & O., of control of P. M. properties. The April 1 order had specified that it would become effective 40 days from that date, which would be May 10. The postponement order, dated May 2, was by Commissioner Mahaffie; and it came "upon further consideration of the record . . . and . . . of petitions in behalf of holders of preferred

stock and common stock of the Pere Marquette . . . for rehearing and reconsideration . . ." Division 4's report was noted in the *Railway Age* of April 5, page 704.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $2,800,000 of 2 per cent equipment trust certificates, the proceeds of which will be applied toward the purchase of Diesel-electric locomotives at a cost of $3,765,500, as outlined in *Railway Age* of April 19, page 823. The certificates will mature in 10 equal annual installments starting May 1, 1948. The report also approves a selling price of 98.52, the bid of Halsey, Stuart & Co., on which basis the average annual cost will be approximately 2.3 per cent.

ERIE.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for $5,440,000 of equipment trust certificates, the proceeds of which will be applied toward the purchase of equipment estimated to cost $6,813,643, as outlined in *Railway Age* of March 29, page 675. The certificates will mature in 10 annual installments, starting May 1, 1948. The report also approves a selling price of 99.2799 with a 1¾ per cent interest rate, the bid of Halsey, Stuart & Co. on which basis the average annual cost will be approximately 1.89 per cent.

GALVESTON, HOUSTON & HENDERSON.—*Notes.*—Under an agreement dated April 15, this road has borrowed $1,672,000 from the South Texas Commercial National Bank, Houston, through the issuance of 3 per cent collateral notes maturing semi-annually in amounts ranging from $72,314 on October 15, 1947, to $95,792 on April 15, 1956. (See *Railway Age* of April 12, page 768.)

LOUISVILLE & NASHVILLE.—*Annual Report.*—Operating revenues of this road last year totaled $169,666,273, compared with $196,541,490 in 1945. Operating expenses were $140,483,173, compared with $146,481,015. Fixed charges were $6,134,648, compared with $7,223,518. Net income was $11,579,590, compared with $17,536,340. Current assets at the end of the year were $69,038,005, compared with $98,946,368. Current liabilities were $26,473,328, compared with $50,474,316. Long term debt was $172,416,212, compared with $176,395,237.

MISSOURI PACIFIC. — *Equipment Trust Certificates.*—This road has requested bids by May 20 for the purchase of $8,700,000 of series HH equipment trust certificates to mature at the rate of $870,000 on each May 15 from 1948 to 1957, inclusive. The certificates are being sold to provide approximately 75 per cent of the cost of the following equipment: 600 50-ton automobile cars, 500 50-ton steel box cars, 50 70-ton covered hopper cars, 50 65-ft. mill-type gondola cars, 6 4,500-hp. Diesel-electric freight engines, 3 Astra-dome passenger cars, 3 standard passenger cars, 21 aluminum sleeping cars, 1 aluminum sleeping-lounge car and 4 stainless steel sleeping cars.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust Certificates.*—This road has sold, subject to Interstate Commerce Commission approval, $5,265,000 of equipment trust certificates to Salomon Bros. & Hutzler and Stroud & Co. on a bid of 98.67 for a 2 per cent interest rate. The certificates, maturing serially on each May 1 from 1948 to 1962, inclusive, were reoffered to the public at prices yielding from 1.15 per cent to 2.40 per cent, according to maturity. (See the *Railway Age* of April 12, page 768.)

SOUTHERN PACIFIC.—*Bonds.*—This road has applied to the Interstate Commerce Commission for authority to issue $22,500,000 of San Francisco Terminal Series A first mortgage bonds, the proceeds of which will be applied toward the retirement of $24,767,600 of San Francisco Terminal first mortgage bonds, due April 1, 1950. The Series A bonds will be dated June 1 and will mature June 1, 1975. They will be sold on the basis of competitive bidding.

ST. LOUIS SOUTHWESTERN.—*Seeks to Terminate Reorganization.* — Berryman Henwood, trustee of this road, and the debtor corporation last week filed a joint petition in the United States district court at St. Louis, Mo., asking for discharge of the road from reorganization upon completion of payment or satisfaction of all of its outstanding obligations. Mr. Henwood said that the Cotton Belt has accumulated sufficient funds to pay off all of its matured liabilities, principal and interest, and that the road is able to meet all other financial obligations as they become due. Immediate cash payments amount to $18,331,525. The petition would dissolve a plan of reorganization approved by the Interstate Commerce Commission and which, last August, was upheld by the U. S. circuit court of appeals at St. Louis. Upon consummation of the newly-proposed plan, fixed charges of the road would be reduced from the 1946 figure of $3,015,000 to $2,050,000 per year for the first year, declining at the rate of $25,000 to $30,000 per year as a result of serial maturity of the road's notes. The Southern Pacific, which holds a majority of both the preferred and common stocks, would continue to hold control of the road.

TENNESSEE CENTRAL.—*Annual Report.*—Operating revenues of this road last year amounted to $3,639,012, compared with $3,847,985 in 1945. Operating expenses were $3,381,217, compared with $3,140,494. Net deficit was $506,472, compared with net income of $59,109. Current assets at the end of the year were $848,616, compared with $1,010,544. Current liabilities were $1,082,238, compared with $983,218. Long term debt was $5,244,165, compared with $5,132,348.

VERDE TUNNEL & SMELTER.—*Stock Reduction.* — This road has applied to the Interstate Commerce Commission for authority to reduce its authorized capital stock from $1,100,000 to $220,000 and to reduce its outstanding capital stock from $700,000 to $140,000 by decreasing the par value from $100 to $20. The road would distribute $315,000 of the surplus so made available to the Phelps Dodge Corporation of New York, owner of all V. T. & S. stock outstanding.

Dividends Declared

Chestnut Hill.—75¢, quarterly, payable June 4 to holders of record May 20.

Chicago South Shore & South Bend. — 30¢, quarterly, payable June 16 to holders of record June 2.

Cleveland & Pittsburgh. — 4% special guaranteed, 50¢, quarterly; 7% regular guaranteed, 87½¢, quarterly, both payable June 2 to holders of record May 10.

Average Prices Stocks and Bonds

	May 6	Last week	Last year
Average price of 20 representative railway stocks..	46.29	44.86	63.28
Average price of 20 representative railway bonds..	88.62	89.14	100.63

Abandonments

HARTWELL.—Division 4 of the Interstate Commerce Commission has vacated the November 11, 1944, order wherein it authorized this road to abandon its entire line, extending approximately 10 miles from Hartwell, Ga., to Bowersville. The vacating order said that the Hartwell expects to continue operation.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—This road has applied to the Interstate Commerce Commission for authority to abandon its 6.7-mile line from Armour, Ind., to Lowell, where it proposes to construct a new line over a different route. The relocation was decided upon because use of the present line, which passes over a bog and has considerable curvature, involves heavy maintenance and "hazards of operation and operating delays."

Railway Officers

EXECUTIVE

Thomas A. Dodge has been appointed executive assistant to the vice-president of the Union Refrigerator Transit Lines, at Milwaukee, Wis., succeeding **R. P. McCord,** whose death was reported in the *Railway Age* of April 12.

C. H. Dietrich, executive vice-chairman of the freight claim division, Association of American Railroads, with headquarters at Chicago, will retire on May 15.

J. Russel Coulter, chief traffic officer of the St. Louis-San Francisco, at St. Louis, Mo., was elected president of the Toledo, Peoria & Western on May 2, succeeding **George P. McNear, Jr.,** whose death on March 10 was reported in the *Railway Age* of March 15. Mr. Coulter had been associated with the Frisco lines since 1927, and since January 1, 1942, had headed the road's traffic department. He was born on June 4, 1899, at Milbury, Mass., and received his higher education at Colby College, at Waterville, Me. He

entered Frisco service as a clerk at St. Louis, and advanced successively to positions as chief clerk in the traffic department and as special representative of the traffic department, at Kansas City, Mo. He

J. Russell Coulter

was promoted to assistant traffic manager in 1931 and to traffic manager the following year. From 1934 to 1942 he served as general traffic manager, advancing to chief traffic officer in January of the latter year. Mr. Coulter has also served as vice-president of the Frisco lines of Texas and the Frisco Transportation Company, the road's bus and truck line subsidiary.

Edward A. West, general manager of the Denver & Rio Grande Western at Denver, Colo., whose election also as vice-president, was reported in the *Railway Age* of April 19, was born on November 5, 1882, at Wiarton, Ont., and received his higher education at Tufts College, Medford, Mass., and the Massachusetts Institute of Techonology. He was enlisted in the Navy from 1900 to 1904, during which period he attained the rank of chief petty officer. Following graduation from

Edward A. West

college, Mr. West held various positions in the electric traction and the public utilities field. He joined the Denver Tramway Company in 1916 as chief engineer and later advanced to general superintendent. In 1925 he became vice-president and general manager of the Utah Light & Traction Co. and in 1936 was elected executive vice-president and a director of the Florida Power & Light Co. He was appointed general manager of the D. & R. G. W. in November, 1947.

Fred C. Hogue, whose election as a vice-president—traffic, of the Denver & Rio Grande Western, at Denver, Colo., was reported in the *Railway Age* of April 19, was born on September 6, 1889, at Burlington Junction, Mo., and entered railroad service in 1905 as a station helper with the Chicago, Burlington & Quincy at Tarkio, Mo. From 1907 to 1909 he served

Fred C. Hogue

as telegraph operator and station agent, and in the latter year he joined the Rio Grande. He advanced to assistant traffic manager at Chicago in 1933 and to general traffic manager at Denver in 1940. Mr. Hogue held the latter position at the time of his election as vice-president.

Richard K. Bradford, whose election as vice-president and assistant general manager of the Denver & Rio Grande Western, at Salt Lake City, Utah, was reported in the *Railway Age* of April 19, was born on May 30, 1896, at Pine Bluff, Ark., and entered railroad service in 1913 as mail and file clerk with the Chicago, Rock Island & Pacific at Des Moines, Iowa. He subsequently held various clerical and secretarial positions with the latter road and

Richard K. Bradford

with the St. Louis Southwestern at Pine Bluff, Ark. He joined the Rio Grande in 1923 as staff officer to the receiver, and advanced successively through positions as assistant to receiver, assistant to general manager, assistant superintendent transportation, assistant general superintendent transportation and superintendent transportation. In 1938 he was appointed examiner, railroad division, Reconstruction Finance Corporation, at Washington, D. C. Mr. Bradford became assistant general manager of the Rio Grande and special representative of the president of the Denver & Salt Lake (now part of the D. & R. G. W.) in 1939. He was appointed executive assistant to trustees of the Rio Grande in 1942, which position he held at the time of his election as vice-president and assistant general manager.

FINANCIAL, LEGAL & AND ACCOUNTING

Harold B. Ramsey, assistant general solicitor of the Minneapolis, St. Paul & Sault Ste. Marie, at Minneapolis, Minn., has been promoted to general solicitor.

H. Lenvik and **H. R. Eide** have been appointed auditor of disbursements and auditor of revenues, respectively, of the Minneapolis, Northfield & Southern and the Minnesota Western, with headquarters at Minneapolis, Minn. **W. B. Granger,** general auditor, will retire on June 1, at which time his position will be abolished.

OPERATING

W. R. Henry has been appointed trainmaster of the Atchison, Topeka & Santa Fe, at Clovis, N. Mex., succeeding **C. F. Abrams,** who has been assigned to other duties.

TRAFFIC

Frank E. Wolff has been appointed general agricultural agent of the Eastern lines of the Canadian Pacific, with headquarters at Toronto, Ont., succeeding **L. C. McOuat,** deceased.

C. W. Carstens has been appointed general agent of the Chesapeake & Ohio and Pere Marquette, with headquarters at Kansas City, Mo.

Dolph Lyon, general agent of the Pere Marquette, at Kansas City, Mo., has retired, following 44 years of railroad service.

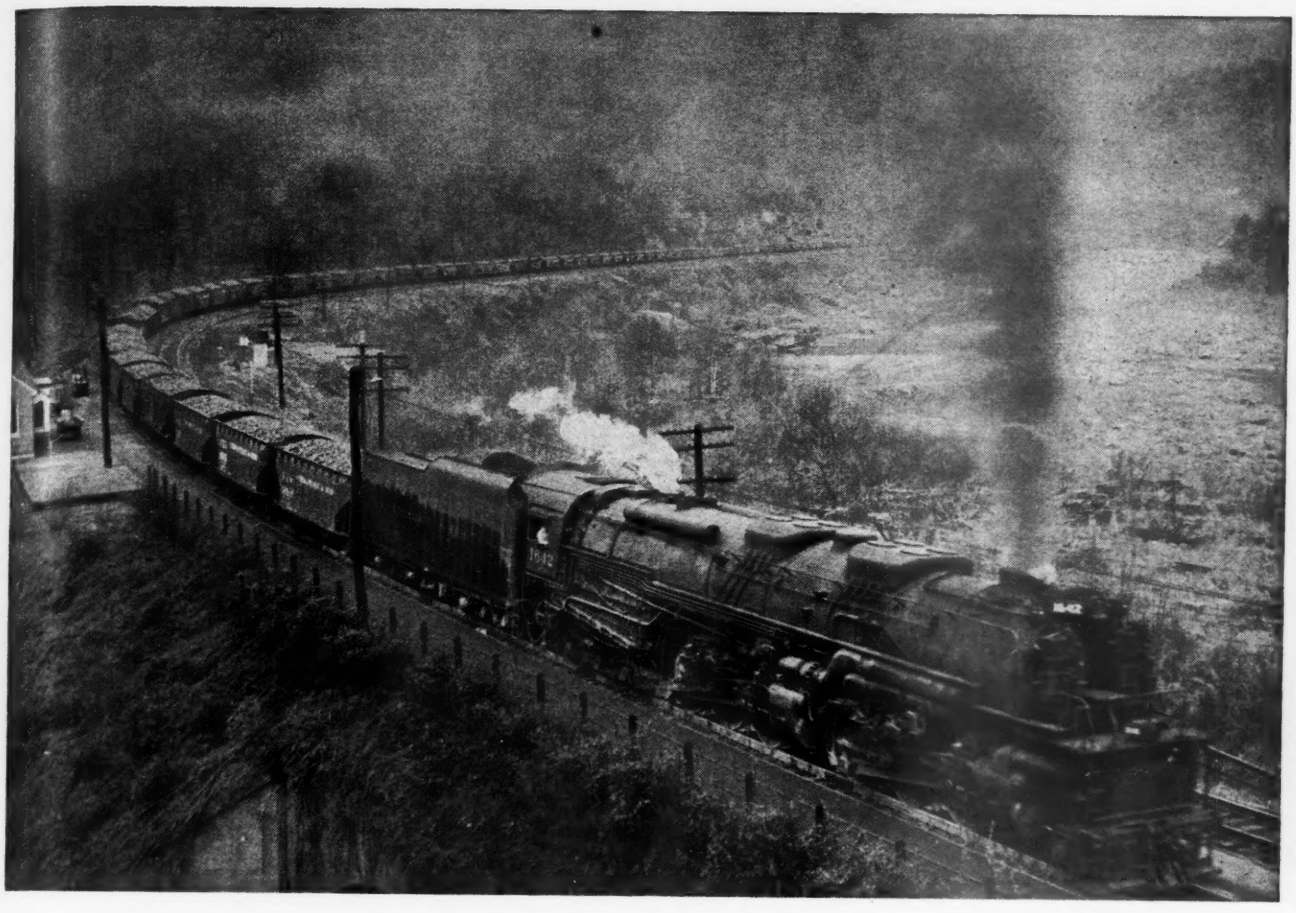
R. C. Duffin, general agent of the Missouri-Kansas-Texas, at Detroit, Mich., has been promoted to foreign freight traffic manager, with headquarters at St. Louis, Mo. **J. L. Richardson,** chief clerk in the traffic department at Dallas, Tex., has been advanced to assistant foreign freight traffic manager there. **R. D. Evans** has been appointed agricultural agent, with headquarters at St. Louis and Dallas.

L. V. Cooper, assistant general freight agent of the New York, Ontario & Western, at Kansas City, Mo., has been promoted to western traffic manager at Chicago. **L. K. Rhoads** has been promoted to general agent at Kansas City.

ENGINEERING & SIGNALING

J. D. Worthing, division engineer of the Northern Pacific, at Duluth, Minn., has been transferred to Glendive, Mont.

News Department continued on next left-hand page



HIGH SPEED FREIGHT DEMANDS

emphasize the need for modern power

Today's freight demands can only be met through a maximum of operating efficiency . . . operating efficiency that is backed up by MODERN Motive Power, capable of hauling increased loads at higher speeds. Reduced running time means increased availability . . . and increased availability means increased revenues. Lima-built Modern Steam Locomotives have shown what Modern Steam Power can do to decrease running time and increase availability and freight revenues.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

F. Malagamba, engineer maintenance of way of the National of Mexico, has been appointed chief engineer, with headquarters at Mexico City, Mexico.

Harry F. Smith, bridge engineer of the Norfolk & Western, with headquarters at Roanoke, Va., has been promoted to engineer of bridges and buildings. **H. C. Charlton,** crossing engineer at Roanoke, has been promoted to assistant engineer of bridges. **J. F. Newson, Jr.,** maintenance engineer at Roanoke, has been advanced to assistant engineer of buildings. All three occupy new positions. **W. I. King,** resident engineer at Norfolk, Va., succeeds Mr. Charlton as crossing engineer at Roanoke. **R. D. Simpson,** transitman, is Mr. Newsom's successor as maintenance

Harry F. Smith

engineer at Roanoke. **J. S. Felton, Jr.,** transitman at Bluefield, W. Va., succeeds Mr. King as resident engineer at Norfolk.

Mr. Smith was born at Clifton Forge, Va., on November 19, 1898, and received his B. S. in civil engineering from Virginia Polytechnic Institute in 1923. He first entered the service of the Norfolk & Western at the Roanoke shops in 1917, working there prior to and during summer vacations while attending college. In June, 1923, Mr. Smith was assigned to permanent service in the engineering department as rodman, subsequently serving as inspector, transitman and draftsman. In May, 1935, he was appointed resident engineer, in which capacity he served until October, 1941, when he became crossing engineer. He held the latter position until January, 1943, when he was appointed assistant engineer, becoming bridge engineer in December, 1945, the position he held at the time of his recent promotion to engineer of bridges and buildings.

MECHANICAL

H. E. Aenchbacher, assistant master mechanic of the Virginia division of the Seaboard Air Line, with headquarters at Hamlet, N. C., has been promoted to master mechanic of the Carolina and Alabama divisions, with headquarters at Savannah, Ga., succeeding **D. M. Wood,** who has been transferred to the South Florida division at Tampa, Fla. Mr. Wood succeeds **G. W. Gilleland,** who has retired from active duty, at his own request, after more than 51 years of service with that road. **J. G. Carlton** has been appointed assistant master mechanic of the North Florida division at Hialeah, Fla., succeeding **R. L. Harper,** who has been transferred to the Virginia division at Hamlet, to succeed Mr. Aenchbacher.

B. M. Swope, superintendent of motive power, Western Pennsylvania division of the Pennsylvania, at Pittsburgh, Pa., has been appointed assistant to the general superintendent of motive power, with the same headquarters. **H. C. Wright,** superintendent of motive power, Eastern Ohio division, succeeds Mr. Swope as superintendent of motive power, Western Pennsylvania division. **C. H. Whistler, Jr.,** master mechanic at Harrisburg, Pa., has been appointed superintendent of motive power, Eastern Ohio division, succeeding Mr. Wright.

V. C. Golden, whose appointment as superintendent of Diesel locomotive maintenance and operation of the Chicago, Indianapolis & Louisville, with headquarters at LaFayette, Ind., was reported in the *Railway Age* of April 5, was born at Whitewater, Kan., on July 27, 1903, and received his higher technical training at Kansas State College. He entered railroad service in November, 1922, as an electrician of the Atchison, Topeka & Santa Fe, at Newton, Kan., and served as machinist and automatic train control maintainer until 1935, when he was appointed assistant supervisor of Diesel locomotives, at Chicago. Mr. Golden was appointed electrical foreman in air-conditioning and car-lighting in May, 1938, and roundhouse foreman in 1939. In 1942 he was named Diesel shop foreman, at Chicago, and served in that capacity until February 1, 1947, when he entered the service of the Chicago, Indianapolis & Louisville as special assistant to the general manager, with headquarters at LaFayette, the position he held at the time of his recent appointment.

William Joseph Crabbs, whose appointment as assistant chief of motive

William Joseph Crabbs

power and equipment of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of May 3, was born at Hagerstown, Md., on September 5, 1912, and received his B. S. in mechanical engineering from Virginia Polytechnic Institute in 1934. Entering railroad service with the Western Maryland, Mr. Crabbs served during the summers of 1927 to 1934 in the mechanical and stores department. From 1934 to 1936 he was special apprentice for the American Locomotive Company at Schenectady, N. Y., returning to the Western Maryland in the latter year as draftsman. In 1938 Mr. Crabbs was promoted to chief draftsman and in 1940 to mechanical engineer. From 1942 to October, 1945, he served as captain and major, United States Army, First Military Railway Service. On October 15, 1945, Mr. Crabbs was appointed mechanical engineer of the Atlantic Coast Line at Wilmington, which position he held at the time of his recent appointment as assistant chief of motive power and equipment.

PURCHASES AND STORES

H. C. Bridger, assistant purchasing agent of the Canadian National, at Vancouver, B. C., has been promoted to purchasing agent there, succeeding **H. L. Taylor,** who has retired.

OBITUARY

Cecil S. Brown, general agent of the Rutland, with headquarters at Rutland, Vt., died at his home in that city on April 26.

Edward G. Clark, who retired in 1944 as general traffic manager of the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., died at his home in that city on April 29, after an illness of two months.

John R. W. Davis, who retired on January 1, 1940, as chief engineer of the Great Northern, with headquarters at St. Paul, Minn., died recently at Seattle, Wash. Born on October 26, 1868, and graduated by Lehigh University in 1891, he entered the service of the Great Northern in 1903 as engineer maintenance of way. In May, 1925, he was advanced to chief engineer, the position he held until his retirement.

Milton A. Baird, who retired as signal engineer of the Erie on August 1, 1940, died at his home in Suffern, N. Y., on April 26. Mr. Baird was born on July 15, 1870, in Cuddebackville, N. Y., and entered railway service on January 19, 1887, as a laborer on the Erie at Middletown, N. Y. In May, 1891, he became a signal blacksmith; in May, 1894, a signal gang foreman; in October, 1897, signal maintainer; in September, 1899, signal supervisor; in October, 1901, signal inspector; in March, 1909, signal supervisor; in September, 1911, general signal inspector; and in October, 1915, chief signal inspector. In May, 1917, he was appointed signal engineer, and held this position until November, 1933, when he was appointed superintendent of telegraph and signals following the consolidation of the signal and telegraph departments on that road, which position he held until his retirement.

The locomotive described in this editorial is equipped with the Franklin System of Steam Distribution.

Staying on the Job

* * *

A steam passenger locomotive arrived on a recent morning at a terminal at which it was scheduled to receive regular quarterly inspection starting the following morning. Two courses of action were possible — the locomotive could be held at the terminal for the inspection or it could be dispatched on a run, turned at a distant terminal during the night and returned the next morning to the inspection point after making approximately 800 miles. It was decided to send the locomotive out on the run. There was no fuss at the enginehouse over assigning the locomotive to the run. There was no doubt in the minds of the men responsible for sending the locomotive out that it would be back the next morning on schedule. That particular locomotive had averaged more than 25,000 revenue-producing miles a month during the preceding six months and 800 miles more were just a matter of routine.

To make 25,000 miles a month — an average of 833 miles for every day in a 30-day month — a locomotive cannot spend much time loafing around an enginehouse. That kind of mileage means that the locomotive has to average better than 50 miles per hour 16 hours a day, which is a pretty good performance for any locomotive; and it certainly could be considered a top-notch job for what some people apparently consider an obsolete piece of equipment.

Here was another demonstration that the well-designed steam locomotive, properly handled, is a dependable machine which, under similar conditions of assignment, can turn in a mileage performance which compares favorably with any accomplished by other types of motive power. This kind of locomotive operation also shows what intelligent planning, and a revision in the belief that a steam locomotive has to spend a large portion of the time being serviced and repaired, can do in improving the usefulness of a machine the capacity of which for staying on the job has been greatly underestimated.

From an editorial in the March 22nd issue of RAILWAY AGE

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

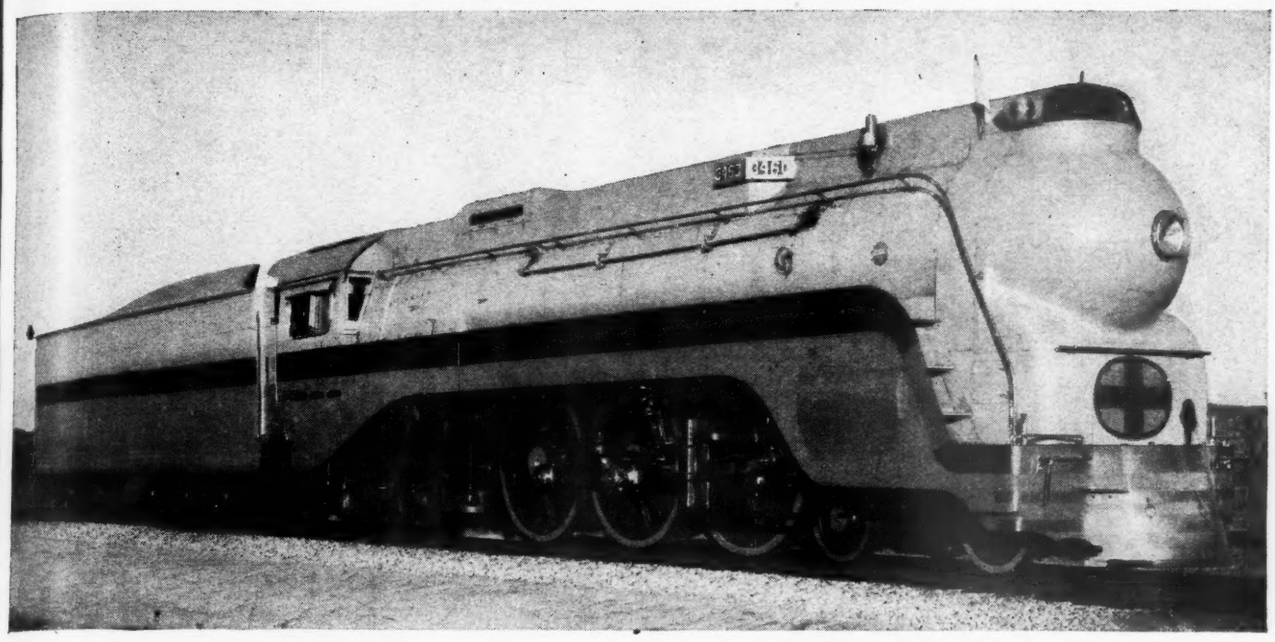
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1947

		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1947	1946
Akron, Canton & Youngstown	Mar.	171	$456,817	$107	$475,277	$62,657	$39,785	$24,704	$138,610	$286,608	60.3	$188,669	$73,355	$98,305	$11,202
	3 mos.	171	1,276,686	236	1,330,360	205,951	119,822	70,096	393,930	850,316	63.9	480,044	189,974	239,630	77,753
Alton	Mar.	959	1,870,888	379,013	2,626,047	433,380	440,944	77,018	992,494	2,098,011	79.9	528,036	190,453	145,078	—745,135
	3 mos.	959	5,208,964	1,171,082	7,411,207	1,193,611	1,132,066	233,804	2,889,225	5,892,574	79.5	1,518,633	581,295	380,633	—390,185
Atchison, Topeka & Santa Fe System	Mar.	13,107	27,667,470	3,291,043	34,189,560	5,200,632	6,352,628	828,846	11,998,728	25,899,123	75.8	8,290,437	5,102,879	3,513,508	1,353,282
	3 mos.	13,107	80,862,497	11,138,421	101,051,926	14,398,737	19,104,246	2,308,447	35,285,058	75,623,116	74.8	25,428,810	14,639,485	11,564,477	13,078,118
Atlanta & St. Andrews Bay	Mar.	82	170,408	1,058	177,405	20,563	14,996	6,371	45,795	97,708	55.08	79,697	34,129	35,038	10,210
	3 mos.	82	477,344	3,253	496,045	58,669	47,558	19,269	131,503	285,677	57.59	210,368	91,879	86,138	21,091
Atlanta & West Point	Mar.	93	251,861	36,624	335,752	55,989	49,036	13,631	174,461	314,919	93.8	20,833	20,693	—22,781	3,188
	3 mos.	93	724,630	137,711	984,118	149,959	143,202	39,538	498,526	896,331	91.1	87,787	61,530	—35,712	21,770
Western of Alabama	Mar.	133	255,050	48,916	341,701	39,170	58,920	13,033	150,284	279,030	81.6	62,671	37,902	21,477	23,077
	3 mos.	133	725,666	164,833	988,352	123,063	173,962	37,831	435,606	825,763	83.5	162,589	104,966	53,590	73,150
Atlantic Coast Line	Mar.	5,573	8,785,891	2,080,206	11,888,741	2,232,983	2,021,229	274,285	4,777,614	9,855,038	82.9	2,033,703	1,000,000	809,773	—1,525,556
	3 mos.	5,573	25,920,751	6,866,662	35,586,130	6,621,062	5,667,661	806,742	14,023,563	28,722,368	80.7	6,863,762	3,100,000	2,726,332	361,712
Charleston & Western Carolina	Mar.	343	413,161	2,451	425,496	68,304	72,547	13,429	155,073	317,371	74.6	108,125	35,000	66,817	—54,397
	3 mos.	343	1,144,045	10,616	1,183,528	206,111	198,351	38,534	439,310	907,296	76.7	276,232	95,000	165,610	—74,949
Baltimore & Ohio	Mar.	6,192	26,323,373	1,802,527	29,746,247	3,407,667	6,391,022	644,324	12,755,503	24,407,573	82.1	5,338,674	2,171,863	2,835,428	—3,601,627
	3 mos.	6,192	73,242,555	5,689,393	83,705,604	9,546,579	18,016,650	1,883,064	36,227,156	69,311,690	82.8	14,393,914	6,126,018	7,556,333	—1,557,659
Staten Island Rapid Transit	Mar.	29	164,560	102,377	278,407	43,081	37,012	1,794	150,315	256,076	92.0	22,331	41,483	—36,774	—60,913
	3 mos.	29	469,532	302,939	803,173	137,724	107,593	4,647	450,995	770,842	96.0	32,331	122,676	—143,121	—146,573
Bangor & Aroostook	Mar.	602	1,673,308	50,037	1,753,854	230,959	194,294	8,076	493,977	966,393	55.1	787,461	314,388	422,051	253,462
	3 mos.	602	3,829,298	148,738	4,068,382	666,960	548,624	22,619	1,216,259	2,572,832	63.2	1,495,550	624,490	809,100	629,611
Bessemer & Lake Erie	Mar.	214	1,045,385	1,839	1,061,799	104,343	422,867	18,846	349,586	940,704	88.6	121,095	216,419	292,353	30,361
	3 mos.	214	2,962,124	4,840	3,009,069	309,706	1,266,610	50,080	990,167	2,756,911	91.6	252,158	566,045	747,781	67,004
Boston & Maine	Mar.	1,762	5,434,601	1,136,383	7,253,396	1,055,224	1,110,227	109,411	2,890,901	5,482,607	75.6	1,770,789	814,745	628,396	—506,573
	3 mos.	1,762	15,046,194	3,594,461	20,443,961	3,293,740	3,248,464	290,035	8,579,960	16,293,974	79.9	4,149,987	1,925,775	1,320,839	410,368
Burlington-Rock Island	Mar.	228	210,772	44,212	279,913	35,733	34,190	3,818	130,834	221,948	79.3	57,965	10,704	—1,445	11,693
	3 mos.	228	653,708	145,323	866,373	112,122	103,275	11,840	386,646	666,088	76.9	200,285	31,830	16,348	74,205
Cambria & Indiana	Mar.	35	126,142	.....	126,198	14,920	89,955	643	22,625	135,156	107.10	—8,958	40,765	53,515	71,816
	3 mos.	35	424,741	.....	424,923	36,435	273,291	1,992	66,769	401,308	94.44	23,615	175,246	145,199	243,677
Canadian Pacific Lines in Maine	Mar.	234	623,529	25,929	668,137	81,534	80,020	6,829	258,458	437,494	65.5	230,643	26,740	118,243	—9,789
	3 mos.	234	1,722,320	114,178	1,899,282	232,211	239,223	19,248	714,963	1,240,656	65.3	658,626	80,607	311,669	217,645
Canadian Pacific Lines in Vermont	Mar.	90	133,755	15,795	167,030	32,723	31,504	4,723	145,624	220,077	131.8	—53,047	18,626	—115,493	—185,789
	3 mos.	90	380,554	52,198	492,886	114,223	93,256	12,994	415,766	654,505	132.8	—161,619	49,293	—338,696	—407,807
Central of Georgia	Mar.	1,815	2,400,931	258,504	2,958,523	472,867	498,995	96,676	1,356,583	2,576,897	87.1	381,626	248,872	139,831	—296,091
	3 mos.	1,815	6,514,883	805,221	8,094,981	1,402,682	1,442,545	292,637	3,951,693	7,550,786	93.3	544,195	738,789	—184,095	49,995
Central of New Jersey	Mar.	419	2,554,384	435,764	3,253,395	386,966	595,479	47,417	1,645,077	2,846,543	87.5	406,852	379,911	—237,880	74,701
	3 mos.	419	6,721,726	1,271,993	8,759,617	1,157,953	1,608,774	142,719	4,761,192	8,162,687	93.2	596,930	1,124,098	—1,344,681	—534,942
Central of Pennsylvania	Mar.	213	1,531,763	18,613	1,592,476	130,309	293,428	22,061	521,747	1,007,438	63.3	585,038	67,303	689,652	45,634
	3 mos.	213	4,189,432	57,864	4,340,421	364,868	854,999	63,344	1,481,184	2,877,524	66.3	1,462,897	193,847	1,812,831	143,608
Central of Vermont	Mar.	422	643,000	90,000	800,838	135,399	156,433	12,103	344,022	680,596	85.0	120,242	53,727	17,300	—199,743
	3 mos.	422	1,961,000	235,000	2,380,895	379,865	434,192	35,524	1,064,059	2,016,417	84.7	364,478	158,030	41,950	—275,154
Chesapeake & Ohio	Mar.	3,106	19,848,794	695,645	21,251,090	2,624,064	3,559,043	407,918	6,709,194	13,985,712	65.8	7,265,378	3,675,452	4,416,079	2,410,789
	3 mos.	3,106	56,356,443	1,957,309	60,256,067	7,645,209	10,497,229	1,164,704	19,140,889	40,513,041	67.2	19,743,026	10,223,977	11,854,137	9,678,669
Chicago & Eastern Illinois	Mar.	910	1,865,012	285,282	2,404,143	298,752	440,568	76,583	1,101,117	2,032,769	84.6	371,374	170,200	89,958	—496,288
	3 mos.	910	5,224,029	920,845	6,852,079	905,635	1,304,482	225,536	3,160,531	5,940,772	86.7	911,307	453,500	132,537	—594,109
Chicago & Illinois Midland	Mar.	131	689,788	898	730,540	118,156	125,240	22,257	186,876	482,771	66.1	247,769	103,890	140,053	41,812
	3 mos.	131	1,930,871	2,704	2,034,442	258,535	365,829	74,413	545,523	1,334,410	65.6	700,032	306,272	385,402	197,203
Chicago & North Western	Mar.	8,064	10,841,122	1,687,121	14,279,819	2,023,770	2,631,854	274,706	6,361,294	11,932,161	83.6	2,347,658	1,085,211	844,102	—1,984,507
	3 mos.	8,064	29,597,756	5,321,096	39,664,773	6,069,131	7,955,606	802,640	18,544,787	35,253,525	88.9	4,411,248	3,220,285	175,855	—498,290
Chicago, Burlington & Quincy	Mar.	8,868	15,695,917	1,229,426	18,564,629	1,970,781	2,311,126	343,708	6,011,005	11,226,530	60.5	7,338,099	3,264,303	3,637,300	1,070,599
	3 mos.	8,868	44,318,574	3,834,774	52,884,310	5,619,243	6,966,276	1,026,349	17,510,539	32,860,127	62.1	20,024,183	9,039,626	9,869,351	9,733,544
Chicago Great Western	Mar.	1,500	2,329,310	110,608	2,638,457	255,149	369,839	76,294	1,209,833	1,997,769	75.7	640,688	148,402	323,557	—433,510
	3 mos.	1,500	6,442,231	263,297	7,315,701	722,093	1,014,329	228,551	3,456,151	5,654,198	77.3	1,661,503	475,620	640,578	—510,339
Chicago, Indianapolis & Louisville	Mar.	541	1,160,708	52,070	1,299,583	268,152	159,509	56,097	523,088	1,076,842	82.9	222,741	77,244	22,334	—149,497
	3 mos.	541	3,153,424	170,377	3,554,886	795,754	508,411	159,458	1,491,317	3,150,333	88.6	404,553	229,765	—158,462	—129,781

(Table of Revenues and Expenses continued on next left-hand page)

Chicago Great Western	Mar.	1,500	2,329,310	110,608	2,638,457	255,149	369,839	76,294	1,209,833	1,997,769	75.7	640,688	148,402	323,557	—433,510
	3 mos.	1,500	6,442,231	263,297	7,315,701	722,093	1,014,339	288,551	3,456,151	5,654,198	77.3	1,661,503	475,620	640,578	—510,339
Chicago, Indianapolis & Louisville	Mar.	541	1,160,708	52,070	1,299,583	268,152	159,109	126,087	523,088	1,076,842	82.9	222,741	77,244	22,334	—149,497
	3 mos.	541	3,153,424	170,377	3,554,886	795,754	508,411	159,458	1,491,317	3,150,333	88.6	404,553	229,765	—158,462	—129,781



Streamlined Motive Power

STREAMLINES ITS WATER CIRCULATION

Security Circulators, in this oil-burning steam locomotive, produce a continuous flow of water from the side water-legs, through the Circulators over the center of the crown sheet.

Located right in the path of the hot gases, they also add a very effective heating area for speeding evaporation, thus improving the locomotive's steaming efficiency.

Security Circulators are applicable to either oil- or coal-burning locomotives and are being installed in existing locomotives as well as in new motive power.

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1947—CONTINUED

		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1947	1946
Chicago, Milwaukee, St. Paul & Pacific	March	10,733	$16,270,526	$1,428,534	$19,402,816	$2,256,085	$2,825,781	$416,541	$7,887,438	$14,138,208	72.9	$5,264,608	$2,384,000	$2,278,852	$966,150
	3 mos.	10,733	43,812,480	4,544,711	53,284,232	6,407,175	8,407,601	1,065,043	22,908,844	41,119,898	77.2	12,164,334	5,586,000	4,885,192	4,371,390
Chicago, Rock Island & Pacific	March	7,650	11,860,491	1,739,688	14,769,437	1,527,705	2,458,466	392,557	5,441,374	10,515,980	71.2	4,253,457	1,593,090	2,046,291	111,536
	3 mos.	7,650	33,128,528	5,254,111	41,656,545	4,258,529	6,918,341	1,189,226	16,018,989	30,416,099	73.0	11,240,446	4,176,713	5,188,379	4,025,856
Chicago, St. Paul, Minn. & Omaha	March	1,616	2,296,245	166,806	2,685,547	329,509	428,483	53,709	1,228,131	2,137,366	79.6	548,181	191,621	219,330	—625,803
	3 mos.	1,616	6,183,717	588,257	7,435,013	1,002,121	1,223,099	154,367	3,615,170	6,288,683	84.6	1,146,330	562,558	176,493	—827,428
Clinchfield	March	302	1,593,948	6,340	1,613,047	93,665	227,479	27,992	452,271	825,422	51.2	787,625	146,418	716,668	366,821
	3 mos.	302	4,604,604	17,628	4,658,809	282,293	670,640	83,245	1,211,996	2,321,273	49.8	2,337,536	434,560	2,078,711	1,234,708
Colorado & Southern	March	748	825,843	81,931	1,001,975	86,812	189,040	23,927	437,420	783,693	78.2	218,282	126,869	67,219	—108,141
	3 mos.	748	2,327,086	300,690	2,899,165	333,325	530,501	65,556	1,234,155	2,302,064	79.4	597,101	362,559	173,564	—28,139
Ft. Worth & Denver City	March	902	746,816	109,095	950,071	142,568	161,261	33,121	363,461	763,122	80.3	186,949	73,311	91,420	—131,772
	3 mos.	902	2,175,227	387,298	2,834,763	394,387	478,376	96,649	1,084,888	2,244,209	79.2	590,554	247,810	307,813	77,346
Colorado & Wyoming	March	42	82,740	.....	154,846	6,661	13,861	756	67,365	93,704	60.5	61,142	32,921	30,049	5,114
	3 mos.	42	263,761	.....	467,720	22,699	44,358	2,266	190,366	276,481	59.1	191,239	104,839	88,732	—6,722
Columbus & Greenville	March	168	157,936	2,241	171,232	62,306	41,352	6,743	105,073	235,634	137.6	—64,402	20,439	—83,705	6,525
	3 mos.	168	437,773	6,966	477,600	117,041	98,429	16,195	224,206	504,909	105.7	—27,309	44,703	—71,058	14,402
Delaware & Hudson	March	794	4,593,300	186,662	4,915,211	426,730	948,690	58,739	1,754,723	3,340,574	68.0	1,574,637	754,754	817,611	56,337
	3 mos.	794	12,066,841	539,539	12,997,307	1,396,609	2,721,479	176,914	5,103,019	9,851,567	75.8	3,145,740	1,611,444	1,505,215	839,721
Delaware, Lackawanna & Western	March	973	5,390,755	771,793	6,754,062	753,744	1,058,457	132,909	3,089,544	5,246,465	77.7	1,507,597	638,633	830,217	—57,219
	3 mos.	973	14,866,162	2,355,778	18,842,196	2,105,911	3,102,060	401,306	8,900,069	15,135,869	80.3	3,706,387	1,754,979	1,725,562	1,004,337
Denver & Rio Grande Western	March	2,366	3,856,554	247,848	4,287,112	461,415	883,415	127,216	1,615,784	3,297,816	76.9	989,296	395,557	626,229	—288,508
	3 mos.	2,366	10,796,237	714,161	12,046,926	1,243,275	2,692,479	366,982	4,812,819	9,703,248	80.5	2,343,678	1,081,626	1,330,976	1,114,421
Denver & Salt Lake	March	232	347,476	8,384	368,991	65,152	66,389	4,541	131,842	281,341	76.2	87,650	26,430	102,925	25,157
	3 mos.	232	1,102,600	21,241	1,157,933	150,995	190,769	12,792	400,876	794,874	68.6	363,059	103,113	385,406	177,314
Detroit & Mackinac	March	230	117,226	1,176	129,314	16,784	17,033	1,654	31,366	73,131	56.5	56,183	24,319	29,024	—5,288
	3 mos.	230	347,450	4,676	384,005	50,261	44,632	3,093	100,114	215,843	56.2	168,162	57,073	97,230	20,472
Detroit & Toledo Shore Line	March	50	611,408	.....	612,895	28,871	47,544	11,076	163,506	261,084	42.6	351,811	115,218	141,696	42,090
	3 mos.	50	1,697,368	.....	1,704,016	96,009	114,929	33,129	462,790	737,483	43.3	966,533	305,665	359,576	148,999
Detroit, Toledo & Ironton	March	464	1,220,037	819	1,259,569	115,447	168,613	20,074	312,757	649,824	51.6	609,745	241,973	332,975	45,703
	3 mos.	464	3,537,726	2,434	3,680,843	339,524	506,098	57,761	889,527	1,884,757	51.2	1,796,086	712,606	967,185	397,149
Duluth, Missabe & Iron Range	March	547	264,282	1,818	298,625	392,754	424,063	9,769	346,710	1,219,631	408.4	—921,006	81,437	—1,004,083	—1,050,120
	3 mos.	547	616,519	6,426	718,679	1,058,245	1,228,768	20,882	965,787	3,417,151	475.5	—2,698,472	222,446	—2,934,858	—2,705,156
Duluth, Winnipeg & Pacific	March	175	329,000	1,300	335,100	53,307	38,868	3,044	129,210	229,221	68.4	105,879	27,711	40,843	—62,454
	3 mos.	175	893,000	3,800	912,200	132,144	119,041	8,945	391,713	666,881	73.1	245,319	78,297	62,628	—30,503
Elgin, Joliet & Eastern	March	391	2,956,507	7	3,457,534	203,799	460,558	21,784	1,284,696	2,054,072	59.4	1,403,462	526,267	598,126	—32,805
	3 mos.	391	8,055,370	9	9,503,075	532,180	1,256,983	62,254	3,795,652	5,895,755	62.0	3,607,320	1,404,024	1,394,128	—350,761
Erie	March	2,229	11,483,188	503,678	12,820,204	1,209,456	2,323,791	268,975	5,657,654	10,006,950	78.1	2,813,254	1,228,049	1,061,840	673,179
	3 mos.	2,229	31,915,636	1,558,733	35,723,833	3,364,163	6,650,716	767,663	16,172,909	28,569,120	80.0	7,154,713	3,253,414	2,532,298	76,137
Florida East Coast	March	682	1,602,235	1,049,071	2,935,873	436,714	391,458	67,330	1,027,034	2,138,883	72.0	796,990	230,186	444,703	495,951
	3 mos.	682	4,991,154	3,076,029	8,874,586	1,248,942	1,142,934	183,865	3,029,615	6,167,628	69.5	2,706,958	791,791	1,480,175	1,718,763
Georgia Railroad	March	328	598,626	30,225	679,683	74,381	113,333	27,903	345,609	585,939	86.2	93,744	49,009	58,740	—57,223
	3 mos.	328	1,755,934	82,727	1,974,105	258,891	355,144	80,392	1,036,883	1,807,810	91.6	166,295	145,036	59,931	—70,855
Georgia & Florida	March	408	199,886	2,145	208,057	59,419	28,445	12,216	91,498	200,548	96.4	7,509	161,123	—24,517	9,399
	3 mos.	408	573,166	6,202	596,033	144,096	78,239	36,523	254,905	540,471	90.7	55,562	45,312	—31,696	4,447
Grand Trunk Western	March	972	3,487,000	161,000	3,905,000	486,776	589,898	51,315	1,661,291	2,908,465	74.5	996,535	260,742	575,271	—451,102
	3 mos.	972	9,395,000	497,000	10,557,000	1,430,046	1,704,702	151,114	4,788,609	8,436,552	79.9	2,120,448	760,836	936,774	—857,499
Canadian Nat'l Lines in New England	March	172	155,000	7,000	175,000	47,161	19,846	2,575	113,892	197,481	112.8	—22,481	25,558	—74,526	—127,890
	3 mos.	172	495,000	22,900	552,000	146,510	77,045	7,587	335,632	596,073	108.8	—44,073	76,674	—206,911	—310,764
Great Northern	March	8,333	11,204,374	932,228	13,054,368	2,418,532	2,822,843	381,467	5,419,500	11,577,936	88.7	1,476,432	1,318,893	150,933	—1,108,052
	3 mos.	8,333	32,561,423	2,275,968	37,688,565	6,951,276	7,998,538	995,865	15,543,088	33,047,261	87.7	4,641,304	3,897,765	756,704	476,614
Green Bay & Western	March	234	274,167	65	281,650	48,525	24,693	14,202	83,575	182,233	64.7	99,417	33,694	53,619	—12,667
	3 mos.	234	730,723	148	750,109	126,414	86,413	41,130	246,411	534,756	71.3	215,353	88,729	95,675	13,420

(Table of Revenues and Expenses continued on next left-hand page)

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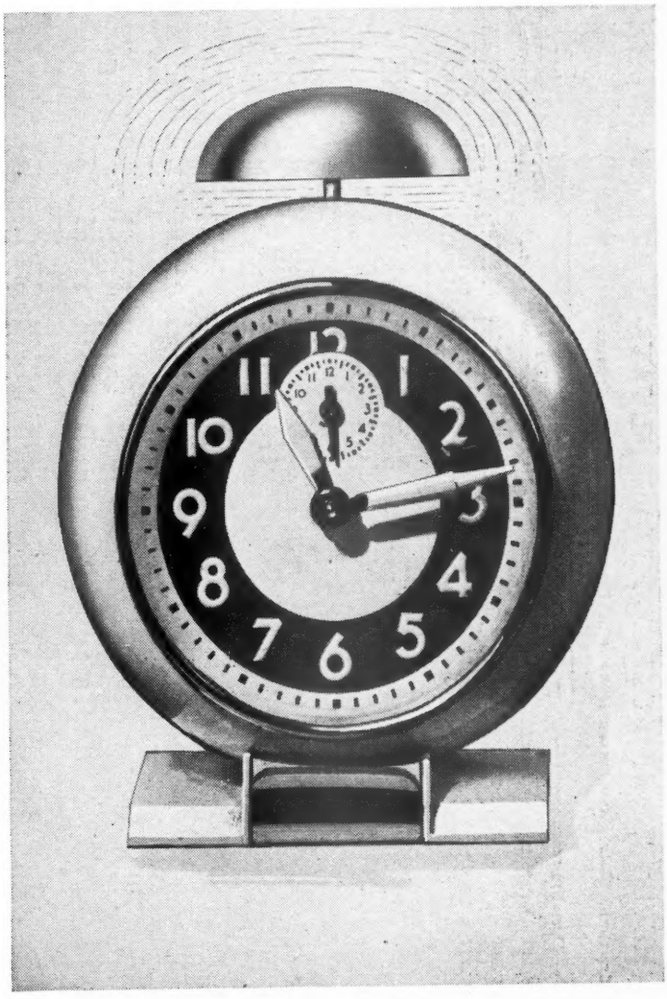
A HIGH-WATER ALARM

When moisture enters the dry pipe inlet, due to either foaming or high water...the Elesco Steam Dryer System goes into action.



A light in the cab indicates to engineman when boiler is foaming or water is too high, enabling him to regulate the supply. The separator in dry pipe discharges dry steam to the superheater units and the automatic discharge valve disposes of the separated water to the ground. This discharged water consists of only carryover or foaming.

Many locomotives are equipped for low water prevention—why not for high water? A trial application will convince.

THE
SUPERHEATER
COMPANY
Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave., CHICAGO
ELESCO
Montreal, Canada, THE SUPERHEATER COMPANY, LTD.

A-1853 (A-1334)

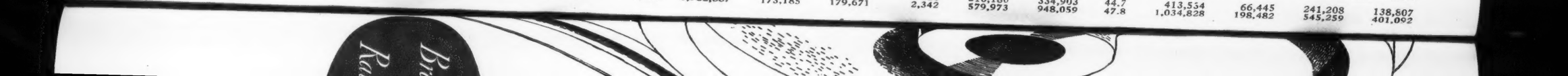
Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • American Throttles

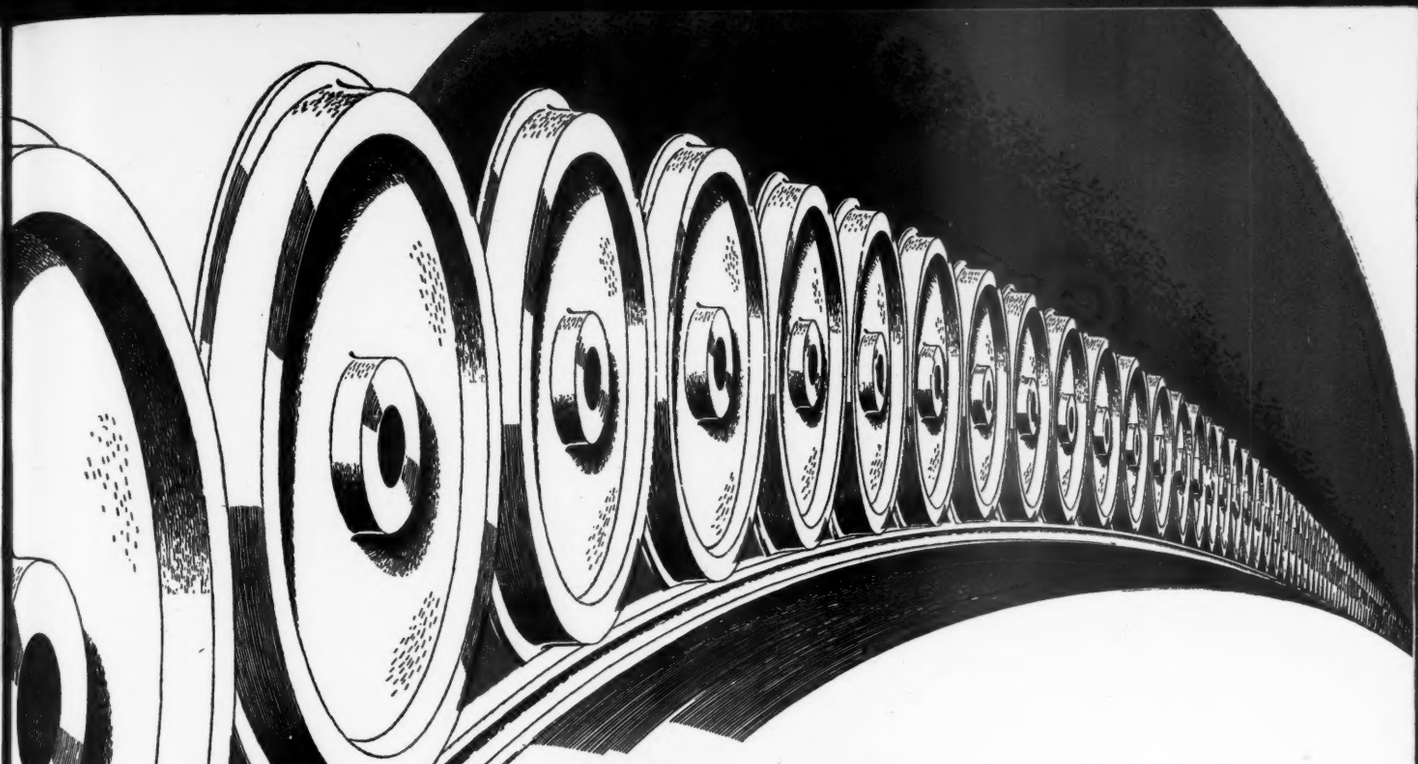
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1947—CONTINUED

		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income: 1947	1946
Gulf, Mobile & Ohio	March	1,945	$3,282,352	$89,463	$3,485,407	$602,597	$584,277	$116,101	$1,038,320	$2,502,091	71.79	$983,316	$408,332	$399,235	—$199,305
	3 mos.	1,945	9,372,574	268,357	9,972,057	1,697,909	1,723,924	328,803	3,049,265	7,256,450	72.77	2,715,607	1,101,404	1,028,416	275,646
Illinois Central (System)	March	6,582	17,107,815	2,046,557	21,397,583	3,023,424	3,665,692	361,972	7,271,225	15,153,853	70.8	6,243,730	2,995,757	2,983,307	—164,303
	3 mos.	6,582	47,592,149	6,098,388	59,397,192	8,744,056	10,323,096	1,042,933	21,375,590	43,990,123	74.1	15,407,069	7,670,547	6,889,472	3,828,530
Illinois Terminal	March	476	744,638	129,597	960,540	111,679	120,158	26,252	338,283	630,466	65.64	330,074	143,912	156,431	—12,688
	3 mos.	476	2,150,547	375,669	2,780,360	344,894	363,030	76,885	1,008,062	1,893,869	68.12	886,491	387,521	405,937	170,208
Kansas City Southern	March	890	2,676,032	89,086	3,001,392	329,174	342,613	73,345	874,316	1,729,999	57.6	1,271,393	486,000	619,755	328,028
	3 mos.	890	7,500,539	245,636	8,407,713	951,782	1,053,582	213,332	2,561,327	5,099,812	60.7	3,307,901	1,182,000	1,652,991	1,222,352
Kansas, Oklahoma & Gulf	March	328	462,698	1,087	466,678	39,008	27,870	13,732	118,105	214,006	45.9	252,672	95,444	124,535	41,556
	3 mos.	328	1,229,620	3,425	1,244,482	86,444	80,774	41,143	320,073	571,663	45.9	672,819	260,255	322,780	182,129
Lake Superior & Ishpeming	March	156	59,759	78	63,089	29,145	44,167	1,890	38,712	122,302	193.9	—59,213	24,245	—79,241	—70,618
	3 mos.	156	171,943	246	180,520	85,174	129,289	4,842	111,294	355,431	196.9	—174,911	71,926	—229,178	—236,767
Lehigh & Hudson River	March	96	323.435	.....	324,856	43,107	46,574	6,962	107,081	211,984	65.3	112,872	42,216	39,654	19,621
	3 mos.	96	887,589	.....	891,014	115,024	124,079	20,425	299,910	584,892	65.6	306,122	117,548	108,858	64,798
Lehigh & New England	March	193	592,866	.....	598,450	57,264	88,158	10,950	198,079	378,091	63.2	220,359	110,008	132,907	83,343
	3 mos	193	1,459,438	.....	1,476,106	182,094	267,262	32,256	537,227	1,092,392	74.0	383,714	216,461	233,386	246,627
Lehigh Valley	March	1,254	5,440,970	323,304	6,183,634	830,121	1,034,468	129,962	2,782,294	5,051,468	81.7	1,132,166	510,739	499,481	201,971
	2 mos.	1,254	15,550,092	1,087,002	17,859,473	2,209,170	2,933,157	390,745	8,262,695	14,551,805	81.5	3,307,668	1,252,052	1,623,892	1,526,669
Louisiana & Arkansas	March	756	1,309.044	30,101	1,392,825	181.507	135,476	39,344	413,927	812.714	58.4	580,111	247,300	235,476	124,919
	3 mos.	756	3,593,005	115,278	3,864,852	515,554	396,791	114,464	1,181,361	2,333,280	60.4	1,531,572	630,354	643,551	475,057
Louisville & Nashville	March	4,768	14,601,947	1,188,182	16,831,917	2,030,039	3,153,747	294,378	6,743,062	12,779,096	75.9	4,052,821	2,526,880	2,001,242	414,659
	3 mos	4,768	40,781,387	3,726,270	47,424,171	6,013,664	9,448,888	834,559	19,430,706	37,403,843	78.9	10,020,328	6,557,560	4,938,380	4,961,959
Maine Central	March	988	1,816,727	146,427	2,100,543	296,159	334,255	17,659	832.650	1,544,051	73.5	556,492	225,615	193,698	—26,948
	3 mos.	988	5,118,858	486,444	5,954,465	913,518	991,101	50,291	2,400,198	4,539,557	76.2	1,414,908	585,457	530,317	313,829
Midland Valley	March	334	193,018	11	185,854	28,639	18,576	2,817	49,227	105,913	57.0	79,941	32,928	36,436	3,542
	3 mos.	334	480,555	13	488,786	71,719	43,286	8,686	143,927	287,000	58.7	201,786	85,736	93,628	38,869
Minneapolis & St. Louis	March	1,408	1,520,397	10,109	1,584,017	194,506	210,540	85,606	542,307	1,107,915	69.9	476,102	218,161	202,436	—131,886
	3 mos.	1,408	4,107,564	31,014	4,298,748	601,627	643,672	252,932	1,462,978	3,180,898	74.0	1,117,850	587,986	448,615	—38,335
Minneapolis, St. Paul & S. S. Marie	March	3,224	2,416,282	83,563	2,641,955	413,949	442,138	52,487	1,111,349	2,102,725	79.6	539,230	204,136	318,596	—571,264
	3 mos.	3,224	6,002,221	275,088	6,691,579	1,186,089	1,306,054	150,881	3,196,713	6,082,504	91.0	599,075	577,771	10,263	—936,803
Duluth, South Shore & Atlantic	March	530	422,059	11,221	457,233	61,167	73,807	15,470	222,595	382,753	83.7	74,480	26,184	24,027	—40,109
	3 mos.	530	1,108,606	34,884	1,206,731	220,965	206,707	44,989	571,548	1,071,923	88.8	134,808	76,303	19,569	—15,951
Spokane International	March	152	148,610	1,650	159,408	39,554	16,883	3,602	52,529	120,848	75.8	38,560	11,903	15,551	10,199
	3 mos.	152	419,521	5,574	454,350	103,744	47,752	11,356	155,184	340,399	74.9	113,951	40,717	37,290	30,875
Mississippi Central	March	148	173,629	367	178,230	47,487	16,579	10,386	41,648	123,516	69.3	54,714	19,760	20,809	17,687
	3 mos.	148	464,770	646	478,736	118,870	50,056	31,680	118,886	342,053	71.4	136,683	47,812	46,508	22,325
Missouri & Arkansas	March	365	—1,660	104	—1,496	10,037	6,594	50	3,527	23,691	..	—25,187	1,235	—26,417	—5,214
	3 mos.	365	1,612	329	7,632	26,002	13,761	655	9,527	61,822	..	—54,190	3,831	—57,738	53,667
Missouri-Illinois	March	172	320,546	284	323,122	53,209	30,271	6,204	79,521	175,552	54.3	147,570	64,266	77,756	29,631
	3 mos.	172	875,019	932	886,916	127,588	98,881	18,805	228,190	494,790	55.8	392,126	173,283	199,571	115,743
Missouri-Kansas-Texas Lines	March	3,253	4,501,524	439,302	5,417,142	825,552	757,393	198,027	2,148,249	4,181,776	77.2	1,235,366	523,531	442,369	—45,792
	3 mos.	3,253	12,743,247	1,197,870	15,307,373	2,251,037	2,269,004	589,532	6,198,028	12,063,215	78.8	3,244,158	1,433,866	1,108,974	1,307,028
Missouri Pacific	March	7,038	13,802,542	1,156,635	16,397,330	2,294,556	2,721,620	356,397	6,383,728	12,404,079	75.6	3,993,251	1,340,219	1,890,753	97,410
	3 mos.	7,037	39,801,144	3,918,789	47,742,531	6,255,359	7,994,584	1,062,244	18,450,876	35,585,997	74.5	12,156,534	4,043,258	6,192,614	4,672,596
Gulf Coast Lines	March	1,734	3,985,813	77,791	4,219,341	703,250	392,989	70,868	1,214,489	2,492,920	59.1	1,726,421	485,291	847,910	652,264
	3 mos.	1,734	10,197,309	261.451	10,920,090	1,991,837	1,119,536	203,840	3,381,828	7,014,909	64.2	3,905,181	903,722	1,967,604	2,289,614
International-Great Northern	March	1,110	1,973,588	220,812	2,460,698	425,229	361,228	45,758	1,096,601	2,052,152	83.4	408,546	128,432	103,699	—387,934
	3 mos.	1,110	5,523,106	646,601	6,942,273	1,284,636	1,054,476	132,528	3,125,720	5,956,518	85.8	985,755	380,273	93,527	36,750
Monongahela	March	170	743,215	1,075	748,437	59,684	59,785	826	210,180	334,903	44.7	413,554	66,445	241,208	138,807
	3 mos.	170	1,966,094	3,398	1,982,887	173,185	179,671	2,342	579,973	948,059	47.8	1,034,828	198,482	545,259	401,092

(Table of Revenues and Expenses continued on next left-hand page)





Millions

of miles without sliding a wheel

Millions of miles without sliding a wheel! Think what that means in terms of better braking, smoother riding, reduced maintenance, and greater safety. Service performance reveals tangible results achieved by "AP" Decelostats: Not a single slid wheel was reported for the nine months covering four million miles of passenger train operation on three railroads!

"AP" Mechanical Decelostat detects wheel slip—keeps the wheels rolling when brakes are applied. Equipment availability is increased and maintenance costs reduced.

Brakes are Basic to Railroad Progress

Specify these Westinghouse running mates:

"HSC" Electro-Pneumatic Brakes . . . for brake flexibility to match modern train speeds, and unequalled smooth action.

Speed Governor Control . . . for regulating brake forces to wheel speeds.

"AP" Mechanical Decelostat . . . for wheel slip detection to keep the wheels rolling.

Westinghouse Air Brake Co.

WILMERDING, PA.

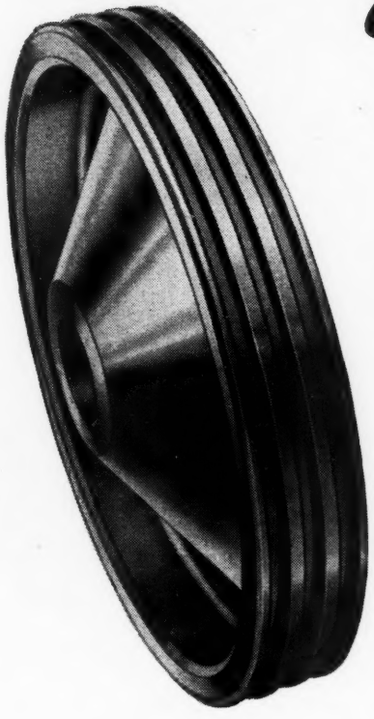
REVENUES AND EXPENSES OF RAILWAYS

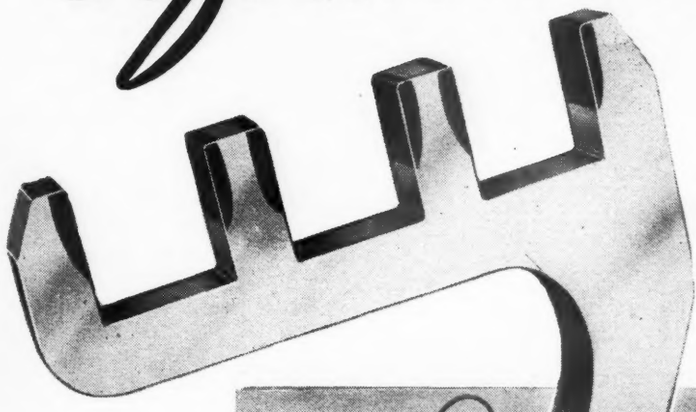
MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1947—CONTINUED

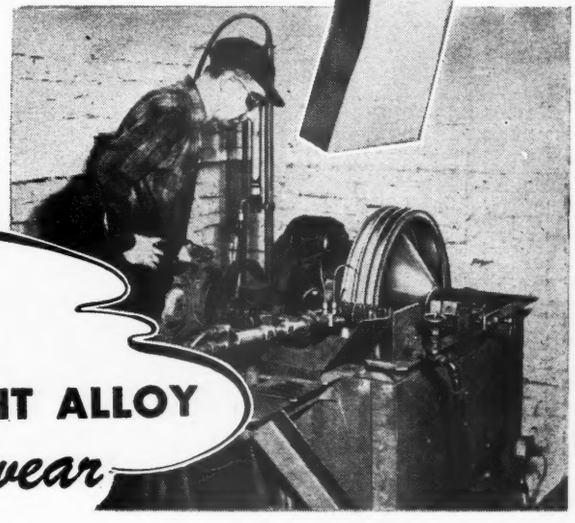
		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income: 1947	1946
Montour	March	57	$254,161	.....	$255,802	$17,186	$62,597	$1,011	$94,147	$184,050	72.0	$71,752	$54,489	$60,973	$56,373
	3 mos.	51	815,578	.....	820,968	52,359	190,169	3,070	309,028	581,946	70.9	239,022	168,969	191,746	150,447
Nashville, Chattanooga & St. Louis	March	1,052	2,260,951	$188,874	2,723,306	390,759	480,684	101,762	1,133,441	2,232,163	82.0	491,143	346,481	165,998	—538,048
	3 mos.	1,052	6,185,136	615,736	7,565,514	1,043,105	1,397,437	292,940	3,259,820	6,312,705	83.4	1,252,809	770,776	452,513	—60,591
New York Central	March	10,746	42,764,214	8,894,815	57,526,951	7,626,809	12,372,510	930,623	26,223,112	49,798,674	86.6	7,728,277	5,043,204	738,066	—1,493,455
	3 mos.	10,746	119,799,378	28,597,302	165,294,011	20,146,381	35,231,505	2,646,647	76,939,034	142,785,966	86.4	22,508,045	14,882,667	2,010,613	49,336
Pittsburgh & Lake Erie	March	223	2,602,130	88,057	2,820,349	341,497	876,515	54,150	1,138,418	2,554,607	90.6	265,742	448,059	436,263	249,281
	3 mos.	223	7,749,387	265,730	8,365,082	1,067,714	2,574,908	166,282	3,304,046	7,535,934	90.1	829,148	1,361,820	1,286,000	441,950
New York, Chicago & St. Louis	March	1,687	7,897,951	95,795	8,174,715	867,351	1,255,646	177,584	3,038,008	5,634,842	68.9	2,539,873	962,309	1,069,781	—81,710
	3 mos.	1,687	21,919,118	338,353	22,775,383	2,652,820	3,534,704	544,619	8,510,676	16,066,588	70.5	6,708,795	2,607,633	2,797,530	926,231
New York, New Haven & Hartford	March	1,838	7,683,907	4,000,376	12,964,361	1,777,772	1,953,793	243,924	5,635,896	10,511,001	81.1	2,453,360	1,000,000	437,800	—1,830,840
	3 mos.	1,838	21,015,823	12,480,026	37,165,321	5,379,127	5,728,033	721,880	16,655,690	31,199,109	83.9	5,966,212	2,975,000	—44,491	—127,280
New York Connecting	March	21	182,076	.....	208,329	60,172	13,290	.....	64,653	140,429	67.4	67,900	59,051	50,834	125,080
	3 mos.	21	507,795	.....	560,969	157,972	54,227	.....	204,690	423,947	75.6	137,022	180,783	75,354	358,016
New York, Ontario & Western	March	547	630,617	1,710	688,032	112,654	119,191	26,671	363,117	651,609	94.7	36,423	50,383	—103,312	—192,886
	3 mos.	547	1,810,252	5,946	1,985,172	307,257	336,791	77,732	1,039,205	1,844,879	92.9	140,293	148,545	—257,232	—408,430
New York, Susquehanna & Western	March	120	311,677	41,672	367,765	31,409	42,560	4,670	149,338	247,251	67.2	120,514	19,393	67,747	42,490
	3 mos.	120	813,255	123,270	995,292	111,873	121,481	14,359	433,640	738,981	74.3	256,311	91,160	79,159	62,907
Norfolk & Western	March	2,130	13,481,119	446,645	14,457,416	1,349,378	2,729,641	219,728	4,127,713	8,842,135	61.2	5,615,281	2,961,937	3,492,636	1,105,578
	3 mos.	2,130	37,927,888	1,580,571	40,752,739	4,740,273	7,757,901	657,190	11,863,760	26,235,252	64.4	14,517,487	8,087,881	8,884,896	7,015,805
Norfolk Southern	March	727	666,634	3,758	697,286	152,595	67,635	42,270	269,049	573,318	82.2	123,968	49,797	33,823	—56,969
	3 mos.	727	2,052,891	11,889	2,131,880	454,612	226,953	123,281	811,626	1,733,773	81.3	398,107	162,429	104,935	37,190
Northern Pacific	March	6,921	10,172,891	458,765	11,500,698	1,954,434	2,186,334	233,818	4,170,760	9,126,170	79.3	2,374,528	1,293,125	1,649,687	—386,161
	3 mos.	6,921	28,886,496	1,650,000	33,088,511	5,661,708	6,471,400	638,715	12,299,042	26,834,097	81.1	6,254,414	3,871,020	4,036,647	1,937,414
Northwestern Pacific	March	331	560,319	11,281	592,566	108,879	69,093	3,190	257,731	449,338	75.8	143,228	37,539	65,333	—211,077
	3 mos.	331	1,537,289	27,800	1,620,416	333,431	197,050	10,337	702,625	1,275,738	78.8	344,678	110,144	132,119	—526,600
Oklahoma City-Ada-Atoka	March	132	70,826	.....	71,866	20,006	3,244	1,109	49,828	69.3	22,038	7,307	6,173	—6,614	
	3 mos.	132	215,417	.....	220,103	47,168	3,447	3,339	67,739	131,096	59.6	89,007	28,322	30,995	23,028
Pennsylvania	March	10,116	56,052,517	12,256,741	74,392,952	7,111,894	15,425,210	1,066,869	36,747,820	63,161,482	84.9	11,231,470	6,270,347	3,959,207	3,818,466
	3 mos.	10,116	155,362,287	38,772,113	211,151,445	21,235,330	47,851,591	3,252,434	107,164,088	188,161,031	89.1	22,990,414	18,661,923	1,317,456	4,779,358
Long Island	March	376	1,264,347	2,103,638	3,597,214	472,684	627,173	21,036	2,082,840	3,280,192	91.2	317,022	470,567	—457,966	—269,988
	3 mos	376	3,400,844	6,018,981	10,107,830	1,542,561	1,832,147	88,554	6,072,667	9,763,240	96.6	344,590	1,409,713	—2,032,251	—930,505
Pennsylvania-Reading Seashore Lines	March	389	523,335	225,658	778,851	186,749	126,330	8,263	525,362	873,470	112.1	—94,619	103,478	—305,296	—268,489
	3 mos.	390	1,373,345	668,559	2,126,870	567,989	387,582	25,358	1,519,316	2,575,896	121.1	—449,026	309,296	—1,077,312	—984,293
Pere Marquette	March	1,950	5,127,466	173,438	5,569,915	733,655	941,163	116,695	2,286,010	4,317,250	77.5	1,252,665	520,337	496,351	—395,563
	3 mos.	1,950	14,168,050	579,377	15,492,937	2,174,539	2,632,808	326,447	6,516,900	12,365,102	79.8	3,127,835	1,343,813	1,089,583	3,042
Pittsburg & Shawmut	March	97	190,762	.....	191,315	17,297	28,282	2,605	57,305	111,739	58.4	79,576	6,534	66,517	13,082
	3 mos.	97	563,265	.....	566,537	55,663	89,589	6,768	173,200	347,008	61.3	219,529	20,086	174,928	89,518
Pittsburgh & West Virginia	March	136	517,285	.....	538,007	70,775	111,659	34,101	137,117	384,742	71.5	153,265	84,082	114,128	—8,438
	3 mos.	136	1,444,800	.....	1,504,437	221,500	326,310	99,816	388,671	1,127,966	75.0	376,471	211,070	280,905	15,398
Pittsburg, Shawmut & Northern	March	122	71,832	.....	72,623	10,642	11,912	1,207	23,860	54,926	75.6	17,697	4,837	5,692	—2,970
	3 mos.	122	209,654	.....	212,067	35,483	39,014	3,539	74,751	176,484	83.2	35,583	15,028	—505	—20,751
Reading	March	1,358	8,773,314	641,964	9,928,645	1,299,628	1,767,027	121,602	3,863,108	7,308,143	73.6	2,620,502	1,282,810	1,196,072	80,313
	3 mos.	1,358	24,883,170	1,818,597	28,248,410	3,845,228	5,352,535	343,744	11,223,836	21,514,358	76.2	6,734,052	3,392,635	3,067,770	1,522,367
Richmond, Fredricksburg & Potomac	March	118	1,411,475	651,808	2,324,819	205,016	257,940	17,691	865,211	1,468,835	63.2	855,984	379,011	389,611	177,489
	3 mos.	118	3,800,972	2,013,603	6,479,737	594,646	831,516	49,483	2,551,052	4,396,010	67.8	2,083,727	959,242	872,609	1,044,011
Rutland	March	407	351,361	41,572	479,917	83,963	103,213	14,408	287,772	511,702	106.6	—31,785	40,150	—88,852	—18,188
	3 mos.	407	996,225	131,695	1,376,905	247,789	319,222	42,447	859,362	1,528,927	111.0	—152,022	116,792	—326,178	—129,221
St. Louis-San Francisco	March	4,645	7,399,434	585,383	8,660,246	1,204,614	1,493,574	201,249	3,498,102	6,769,711	78.2	1,890,535	952,449	896,553	—1,683,445
	3 mos.	4,645	20,826,461	1,766,605	24,504,922	3,515,864	4,322,636	601,034	10,172,684	19,704,061	80.4	4,800,861	2,599,688	2,222,004	—265,186
St. Louis, San Francisco & Texas	March	160	321,439	10,808	348,427	45,118	31,811	13,715	142,534	242,541	69.6	105,886	39,144	41,015	—17,259
	3 mos.	160	887,902	41,385	976,664	128,992	95,046	40,333	422,392	714,848	73.2	261,816	85,345	96,859	47,190

(Table of Revenues and Expenses continued on next left-hand page)

FOR *Perfect Piston Performance*







FLAME-HARDENED
HUNT-SPILLER LIGHTWEIGHT ALLOY
STEEL PISTONS *resist wear*
AT VITAL POINTS

THE above cross section is retouched to show areas hardened by the operation pictured below it. This controlled operation enormously increases piston and bushing life by imparting superior wear resistance to places where it is most needed—the ring grooves.

Hunt-Spiller Light Weight Alloy Steel Pistons are available in two and three-groove types for either plain or lock-lip packing. For the utmost in service you will want to use them with genuine Hunt-Spiller packing rings of the type you prefer—gun iron, combination gun iron and bronze, and all-bronze. Hunt-Spiller Mfg. Corporation, 383 Dorchester Ave., Boston 27, Mass. In Canada: Joseph Robb & Co., Ltd., 4050 Namur St., Montreal 16, P.Q. Export Agents: International Ry. Supply Co., 30 Church St., New York 7.

HUNT-SPILLER

LIGHT WEIGHT
STEEL PISTONS AND VALVES
DUPLEX SECTIONAL PACKING
AIR FURNACE GUN IRON

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1947—CONTINUED

		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1947	1946
St. Louis Southwestern Lines	March	1,575	$4,433,662	$59,900	$4,645,496	$696,304	$530,322	$127,263	$1,350,538	$2,857,638	61.5	$1,787,858	$766,276	$854,355	$220,937
	3 mos.	1,575	12,137,681	201,825	12,757,990	1,796,076	1,367,456	363,380	3,816,288	7,783,611	61.0	4,974,379	2,059,555	2,441,979	1,164,427
Seaboard Air Line	March	4,156	8,663,112	1,801,367	11,343,797	1,806,938	1,824,237	275,231	4,422,743	8,886,121	78.3	2,457,676	924,948	1,156,864	243,265
	3 mos.	4,156	24,843,233	5,466,630	32,710,683	4,917,769	5,274,673	816,035	12,716,124	25,375,007	77.6	7,335,676	2,908,302	3,157,480	3,585,290
Southern Railway	March	6,484	16,440,390	1,591,712	19,350,089	2,706,218	3,339,169	353,614	7,425,360	14,584,699	75.4	4,765,390	2,305,689	2,010,169	444,529
	3 mos.	6,484	47,325,766	5,400,513	56,376,029	8,181,309	10,001,703	1,003,602	21,717,767	43,087,766	76.4	13,288,263	6,290,144	5,660,344	5,592,851
Alabama Great Southern	March	316	1,122,336	95,983	1,305,925	191,265	285,959	31,143	513,743	1,071,863	82.1	234,062	159,681	111,645	—100,074
	3 mos.	316	3,260,582	413,701	3,923,532	565,169	903,952	88,952	1,459,961	3,173,221	80.9	750,311	500,633	354,320	106,910
Cinn., New Orleans & Texas Pacific	March	337	2,466,058	313,686	2,936,886	340,466	575,075	48,168	920,380	1,982,251	67.5	954,635	531,604	521,335	101,028
	3 mos.	337	7,044,305	869,496	8,362,618	969,497	1,732,555	143,373	2,664,059	5,815,486	69.5	2,547,132	1,414,944	1,382,114	763,251
Georgia Southern & Florida	March	397	371,141	162,557	576,856	97,568	65,922	7,893	220,044	411,272	71.3	165,584	63,656	66,263	12,334
	3 mos.	397	1,093,653	332,568	1,561,690	299,970	174,013	21,610	620,948	1,176,148	75.3	385,542	147,016	134,778	134,810
New Orleans & Northeastern	March	204	778,440	51,715	882,617	118,961	97,973	16,251	231,651	499,329	56.6	383,288	176,522	170,706	—8,912
	3 mos.	204	2,196,638	178,818	2,523,422	357,332	301,134	54,268	719,316	1,535,626	60.9	987,796	448,775	422,069	190,548
Southern Pacific	March	8,228	27,019,580	4,032,987	33,538,748	3,984,529	5,956,101	636,746	13,321,731	25,756,837	76.8	7,781,911	4,253,476	2,597,856	—1,809,404
	3 mos.	8,228	78,531,093	12,602,854	98,478,577	11,682,651	17,198,952	1,859,787	38,895,498	75,458,136	76.6	23,020,441	11,593,459	8,176,344	2,611,062
Texas & New Orleans	March	4,320	8,300,467	844,164	9,783,583	1,170,613	1,266,285	185,002	3,373,437	6,419,694	65.6	3,363,889	1,441,346	1,467,192	2,168,364
	3 mos.	4,320	22,770,606	2,689,406	27,313,832	3,499,807	3,406,523	549,286	9,942,990	18,704,440	68.5	8,609,392	3,742,770	3,564,392	4,721,974
Spokane, Portland & Seattle	March	944	1,649,425	49,014	1,807,654	373,513	227,359	22,540	644,517	1,346,764	74.5	460,890	164,186	214,714	43,271
	3 mos.	944	4,602,760	155,425	5,089,237	1,022,624	654,804	56,217	1,883,022	3,849,587	75.6	1,239,650	473,462	429,316	111,098
Tennessee Central	Mar.	286	338,438	8,674	371,269	58,482	69,652	10,407	173,084	327,158	88.1	44,111	17,310	693	12,190
	3 mos.	286	967,786	24,854	1,058,772	176,093	210,057	29,350	476,136	938,333	88.6	120,439	79,135	—26,550	—30,252
Texas & Pacific	Mar.	1,873	4,031,141	390,606	4,848,021	664,968	760,433	168,280	1,834,648	3,722,145	76.8	1,125,876	335,855	633,020	276,241
	3 mos.	1,873	11,039,668	1,339,917	13,624,580	1,906,402	2,040,957	453,647	5,182,967	10,432,574	76.6	3,192,006	981,483	1,706,165	1,868,865
Texas Mexican	Mar.	162	222,895	96	249,160	27,686	15,913	4,868	62,994	123,237	49.5	125,923	18,761	95,327	—4,075
	3 mos.	162	579,439	318	654,745	84,193	71,674	13,949	169,152	375,049	57.3	279,696	55,124	183,749	60,589
Toledo, Peoria & Western	Mar.	.....	*3,904	.....	*3,904	.....	2,871	.....	774	8,187	...	—12,091	—432	—11,750	—15,769
	3 mos.	.....	*26,126	.....	*26,126	.....	2,871	.....	3,339	16,716	...	—42,842	—2,257	—40,951	—41,755
Union Pacific System	Mar.	9,775	26,884,774	3,221,384	32,532,693	4,147,727	5,367,929	791,474	11,311,317	23,464,839	72.1	9,067,854	4,726,385	3,633,620	—678,272
	3 mos.	9,775	75,852,588	10,097,303	93,135,313	11,099,027	15,410,353	2,087,273	33,723,963	67,717,266	72.7	25,418,047	13,122,072	9,663,119	7,075,182
Utah	Mar.	111	183,717	.....	183,741	17,583	50,055	645	66,987	141,741	77.1	42,000	22,457	16,448	19,420
	3 mos.	111	607,289	.....	607,375	72,938	142,477	1,849	217,641	454,675	74.8	152,800	78,322	67,919	53,396
Virginian	Mar.	661	3,034,240	5,213	3,219,689	310,810	662,173	33,477	775,988	1,857,314	57.7	1,362,375	650,000	837,786	487,339
	3 mos.	661	8,997,547	15,461	9,381,896	872,338	1,933,928	102,794	2,170,765	5,292,078	56.4	4,089,818	1,923,500	2,512,748	1,765,728
Wabash	Mar.	2,393	7,227,721	588,128	8,109,034	976,963	1,021,853	228,660	3,034,202	5,562,889	68.6	2,546,145	981,459	1,176,709	226,627
	3 mos.	2,393	20,202,580	1,276,103	22,941,508	2,671,457	3,047,636	646,600	8,880,160	16,009,081	69.8	6,932,427	2,695,983	3,098,979	1,586,641
Ann Arbor	Mar.	294	678,682	3,118	692,417	67,661	119,128	20,662	292,850	514,706	74.3	177,711	75,886	78,998	—1,347
	3 mos.	294	1,888,290	10,190	1,929,701	199,761	352,192	60,795	845,914	1,495,031	77.5	434,670	200,388	191,580	67,279
Western Maryland	Mar.	837	3,499,358	13,668	3,663,002	390,487	562,464	63,733	1,194,525	2,325,767	63.5	1,337,235	565,000	736,282	380,082
	3 mos.	837	9,672,697	44,214	10,136,373	1,163,821	1,690,560	185,190	3,406,669	6,791,645	67.0	3,344,728	1,473,000	1,859,375	1,394,203
Western Pacific	Mar.	1,195	2,840,920	154,427	3,085,303	613,403	456,205	122,371	1,190,131	2,534,384	82.1	550,919	212,667	264,645	—170,288
	3 mos.	1,195	8,006,397	465,458	8,728,342	1,581,304	1,593,436	360,371	3,508,628	7,504,432	86.0	1,223,910	638,184	348,489	991,156
Wheeling & Lake Erie	Mar.	505	2,417,450	6	2,482,942	256,966	346,912	54,515	751,274	1,465,791	59.0	1,017,151	539,112	645,220	151,023
	3 mos.	505	6,426,997	8	6,616,485	661,488	1,033,920	161,702	2,092,668	4,120,356	62.3	2,496,129	1,408,958	1,631,900	599,195
Wisconsin Central	Mar.	1,051	2,046,126	31,957	2,227,900	148,502	327,842	49,265	910,242	1,505,873	67.6	722,027	146,432	441,908	—289,739
	3 mos.	1,051	5,542,353	104,276	6,008,994	583,109	957,464	141,954	2,687,474	4,578,757	76.2	1,430,237	428,430	673,304	—22,575

Meetings & Conventions

(*Continued from page 958*)

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, June 9, 1947, Madison Hotel, Atlantic City, N. J.
Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, June 17-19, 1947, Hotel Statler, Detroit, Mich.
Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y. Annual meeting, May 8-10, 1947, Statler Hotel, Cleveland, O.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Chicago, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, September 30, 1947, Hotel Sherman, Chicago, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, September 11-13, 1947, Edgewater Beach Hotel, Chicago, Ill.
Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 23-28, 1947, Convention Hall, Atlantic City, N. J.
Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill.
Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C. Annual meeting, June 23-25, 1947, Convention Hall, Atlantic City, N. J.
Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago 5, Ill.
Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.
Car Service Division.—W. C. Kendall, Chairman, Transportation Bldg., Washington 6, D. C.
Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.
Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting, May 20-23, 1947, Roney Plaza Hotel, Miami, Fla.
Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting, October 8-10, 1947, New Ocean House, Swampscott, Mass.
Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill. Annual meeting, May 7-9, 1947, Hotel Ambassador, Atlantic City, N. J.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill. Exhibit in conjunction with American Railway Bridge and Building Association Convention, September 15-18, 1947, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 15-18, 1947, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—W. E. Angier, chief A. A. R. clerk, C. B. & Q. R. R., 547 W. Jackson Blvd., Chicago 6, Ill. Regular meetings, second Monday of each month, except June, July and August.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

CHICAGO LUNCHEON CLUB OF MILITARY RAILWAY SERVICE VETERANS — Col. R. O. Jensen, Schiller Park, Ill. Luncheon, second Wednesday of each month, Chicago Traffic Club, Palmer House, Chicago, Ill.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting, September 15-18, 1947, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION — A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting September 15-18, 1947, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, July 14-18, 1947, Statler Hotel, Boston, Mass.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—F. J. Armstrong, U. S. Radiator Company, Detroit, Mich.

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NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill. Meeting and exhibit in connection with A. R. E. A. Convention, March 15-18, 1948.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION.—E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Calif.

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RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

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RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 15-18, 1947, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—A. W. Brown, Room 1424, 30 Church St., New York 7, N. Y. Exhibit in conjunction with meetings of A. A. R. Mechanical Division and Purchases and Stores Division, June 23-28, 1947, Convention Hall, Atlantic City, N. J.

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RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo. Annual meeting, September 23-25, 1947, Arlington Hotel, Hot Springs, Ark.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 16-18, 1947, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

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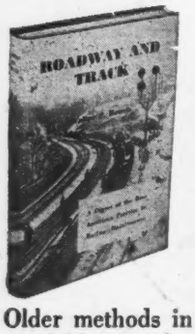

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